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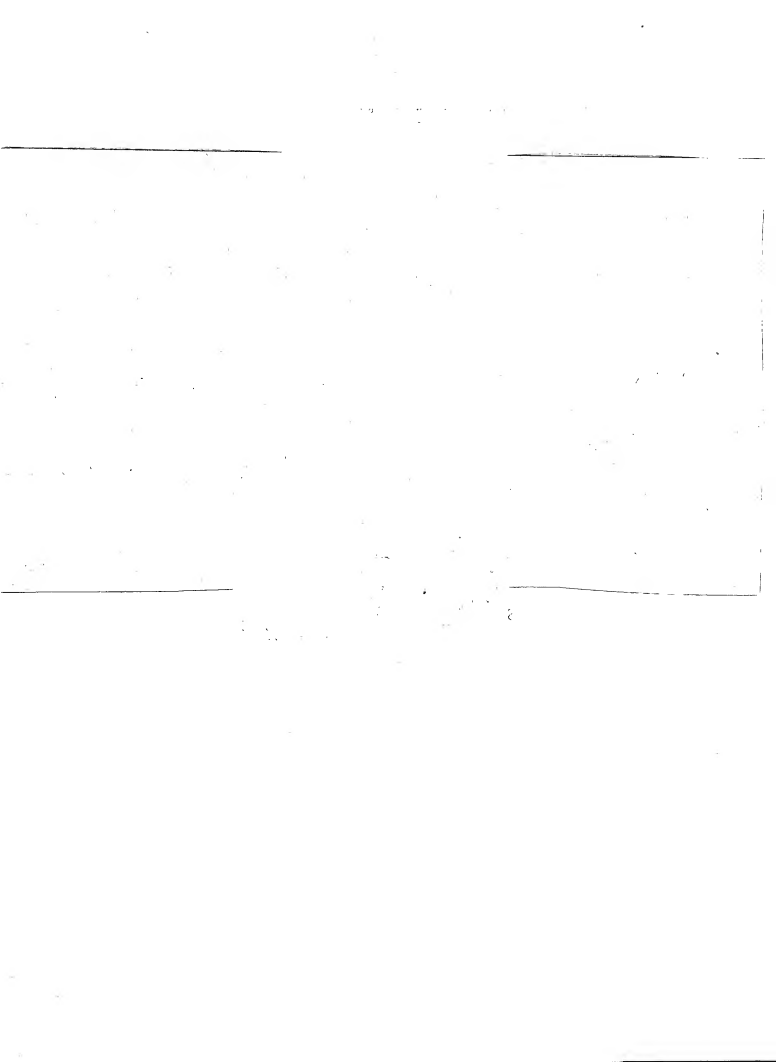
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**Census
of Canada**

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Canada





STATISTICS CANADA

Census and Household Statistics Branch

HIGHLIGHTS: 1981 CENSUS OF CANADA

A compendium of six articles on the 1981 Census of Population and Housing which appeared in the **Canadian Statistical Review** (Catalogue no. 11-003E) between June and December, 1983.

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SUMMARY DESCRIPTION OF THE 1981 CENSUS PRODUCTS

The following is a brief summary of the types of products available from the 1981 Census. It is by no means a comprehensive or definitive list but is intended, rather, as an overview. A more detailed description of the products is given in the publication "Products and Services of the 1981 Census of Canada".



PUBLICATIONS

NATIONAL SERIES

- . A series of 37 publications, generally organized by subject-matter.
- . Reports totals for Canada and the Provinces and Territories.
- . Content variables in highly detailed form, both in basic and cross-tabulated distributions.
- . Organized to facilitate comparisons at the national level.

PROVINCIAL SERIES

- . Contains six sets of publications, one publication per province or territory, with Canada totals provided (72 publications in total).
- . Each set focuses on a content area.
- . Census data in less detail than the National Series, in both basic and cross-tabulated form.
- . Organized to facilitate comparisons of similar geographic regions (census divisions, census sub-divisions, census metropolitan areas, ...) within a province.

PROFILE SERIES

- . A series presenting geographically detailed data (federal electoral districts, census divisions, census metropolitan areas with components, census subdivisions, and census tracts).
- . Reports a broad range of data in relatively little detail.
- . Accommodates a user community interested in a range of statistics for a particular region, rather than a particular variable over several regions.
- . Census data in basic distributions with a minimal amount of cross-classification.

DESCRIPTIVE SERIES

- . Includes the two following sets of publications:

CONTENT SERIES . Presents analysis of topical socio-economic trends and characteristics indicated by the 1981 Census data.

METROPOLITAN ATLAS SERIES . Illustrates via thematic maps and graphics, the distribution of various characteristics within 12 census metropolitan areas.

1981 CENSUS
DICTIONARY

- . Contains definitions of variables and terms used in 1981 Census products (publications, tapes and microfiche).
- . Indicates previous censuses for which data on variables are available.
- . Outlines the variable universes and responses on the 1981 Census data base.
- . Offers explanatory remarks and conceptual changes in variables over time.

PRODUCTS AND
SERVICES

- . Informs users of pre-planned 1981 Census products and services.
- . Lists tables of content for each bulletin.
- . Lists titles of tabulations on User Summary Tape and Microfiche by geographic area.
- . Describes briefly the contents of analytical and reference products, including reference maps.
- . Includes publications order forms.

GEOGRAPHIC
REFERENCE
PRODUCTS

- . A variety of products from publications (catalogued and uncatalogued) and individual map sheets to tape files.
- . Many are designed as reference tools catering to a more specialized or technical audience.
- . Includes publications on final population counts for various geographic areas, maps showing boundaries of all areas for which census data are collected and the linkages between various standard geostatistical areas.

MACHINE-READABLE PRODUCTS

USER
SUMMARY
TAPES

- . Census data in machine-readable form, allowing for easy access, manipulation and analysis according to user designed specifications.
- . Characterized by the presentation of aggregate data as opposed to individual records.
- . Usually provide more detail in terms of content variables than do the printed bulletins.
- . Data released on USTs are also repeated on microfiche unless the number of FICHE required for any one table is too high.

USER
SUMMARY
TAPES
(concluded)

Includes the following two series:

- BASIC SERIES
 - . USTs involving tables at the census subdivision, enumeration area or census tract level.
 - . Designed to meet the needs of small area data users.
- SPECIAL SERIES
 - . USTs involving tables at geographic levels not covered by the BASIC SERIES (Canada and provinces, urban core and fringe, census metropolitan areas, ...).
 - . Provides very extensive detail of the content variables.
 - . Medium for data too voluminous for inclusion in the print products.

MICROFICHE

- . The User Summary Tape BASIC and SPECIAL SERIES are reproduced on FICHE to provide the same data for users who do not have access to computers (see above).
- . The entire publication output is also duplicated on microfiche.

CANSIM
SUMMARY
DATABASE
SYSTEM

- . Data base containing all user summary tapes released by Statistics Canada since 1971.
- . Access system allowing selection, retrieval and manipulation of summary data.
- . Can be accessed through terminals across Canada or at Regional Offices.
- . Random rounding is applied at the final stage of data manipulation.

PUBLIC USE
SAMPLE TAPES

- . Micro-data tapes representing a very small sample of the overall universe.
- . Individual records on two files; the individual file and the household/family file.
- . Steps are taken to protect the confidentiality of the reporting units selected.
- . Designed for research purposes and as a teaching aid, mainly by the academic sector.

NATIVE
TAPE/FICHE

- . Profile summary data on the native population available on tape or microfiche.
- . Broad range of statistics on a small population of interest.

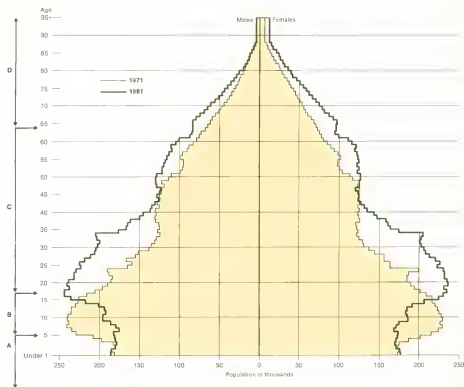
CUSTOM
TABULATIONS

- . Any tabulation not in the main tabulation programme which requires accessing one of the census microdata bases
- . Such tabulations might require:
 - a new variable or a new distribution of an existing variable.
 - a new cross-classification of variables
 - a different geographic area
 - a different output medium
 - any combination of the above.
- . These tabulations are cost-recoverable.

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Age Pyramid of the Population of Canada,
1971 and 1981



- (A) Pre-school (ages 0-5)
 (B) Elementary and high school (ages 6-17)
 (C) Working ages (ages 18-64)
 (D) Retirement age population (ages 65+)

Source: 1971 Census of Canada Catalogue 92-716 Table 14
 1981 Census of Canada Catalogue 92-901 Table 2

1981 Census of Population (Part 1): Demographic Highlights

* E.T. Pryor

The twelfth decennial Census of Canada was taken on 3 June 1981. Currently being released from that Census is a wide range of data giving demographic, social and economic benchmarks for the past decade. In coming issues of the *Canadian Statistical Review*, highlights of initial analysis of some of these data will be provided. In this issue, the basic population *dynamics* of Canada over the 1971-1981 decade will be highlighted. In this context, "dynamics" refers to key demographic developments, changes in living arrangements, and migration of the Canadian population.

The description of the 1970s as a period of rapid change has become a familiar cliché. Just how "dynamic" have been the changes in the population composition, how we live with others, and the extent of redistribution of people across Canada can be assessed from 1971/1976/1981 Census information.

Population Change

On 3 June 1981 the population counted was 24,343,181.¹ This figure was 12.9 percent more than that ten years previous. This rate of growth is the lowest decade growth in Canada since the 1930s (10.9% increase between 1931-1941). Still, the absolute growth of 2,774,870 between 1971 and 1981 is the third largest decade growth in the history of Canada. Natural increase, i.e., the difference between birth and death accounted for about 69 percent of this 2.8 million growth with net migration making up the remaining 31 percent. The comparable figures for the 1961-1971 decade were 78 percent natural increase and 22 percent due to net migration. The primary explanation for this change was the decline in fertility during the 1970s versus the baby boom years of the 1960s.

Age

During the 1970s, the population became distinctly older. This aging of the Canadian population is explained by the dramatically lower fertility of the 1970s and increasing life expectancy. The accompanying population pyramid shows the changes by age and sex between 1971 and 1981. Interestingly, with an increase

Table 1

MEDIAN AGE

Census Year	Median Age
1901	22.7
1911	23.8
1921	24.0
1931	24.8
1941	27.1
1951	27.7
1961	26.3
1971	26.2
1981	29.6

of 35.3 percent in the population 65+ which was more than counter-balanced by a 14.1 percent decrease in the population 14 and under, the (dependency) ratio of these populations to the labour force age population (ages 15-64) decreased from 60.4 to 47.5. Looking at age change from another angle, the median age of Canada's population increased by almost 13 percent from 26.2 in 1971 to 29.6 in 1981 (see Table 1). By a considerable margin, this is the highest median age attained in this century.

Looking more closely at specific changes by age groups, Table 2 documents the wide fluctuations in trends by age. The largest percentage gain was among the young adult population (ages 20-34)

Table 2

AGE GROUPS, 1971-1981

Age Groups	Population		Percentage Change
	1971	1981	
0-4	1,816,155	1,783,375	- 1.8
5-14	4,564,745	3,697,735	- 19.0
15-19	2,114,345	2,314,885	+ 9.5
20-34	4,778,950	6,559,995	+37.3
35-64	6,549,725	7,626,220	+ 16.4
65+	1,744,410	2,360,975	+35.3
TOTAL	21,568,310	24,343,181	+12.9

* E.T. Pryor is 1981 Census Manager

at 37.3 percent. For 1981, that was the post-war baby boom generation born between 1947 and 1961. Also, as indicated above, the elderly population (65+) grew by over a third (+35.3%). These basic changes in age composition summarize the demographic impact of the 1970s on Canadian institutions and economic structure: (1) the decline of almost 900,000 in the school age population (5-14); (2) the growth of almost 1.8 million in the young labour force age (20-34) population; and (3) the expansion by over 600,000 in the elderly (65+) population. These three demographic developments in themselves have captured great attention (and countless headlines) as Canada's economic, social, and political systems have attempted to deal with the consequences of these trends.

Fertility

The changes in fertility since the 1960s have been striking. With the information from the 1981 Census on "children ever born", the reductions in fertility since the 1960s are most apparent. Table 3 allows comparisons of the 1941/1961/1981 generations of women in terms of completed fertility (i.e., the average number of children already born) by age groups. For all age groups, the 1981 rates have declined significantly since 1961 and are generally even lower than forty years earlier. Later marriage, increased labour force participation, birth control and increased marriage interruption by separation and divorce have all contributed to this pattern of decline. The question for the 1980s will be whether the low 1981 fertility level for younger women (20-34) will be maintained or on the other hand represents delayed fertility, i.e., a new pattern where labour force entry and career development precedes, instead of follows, as in the past, child-bearing.

Table 3

EVER-MARRIED WOMEN BY AGE GROUP AND NUMBER OF CHILDREN EVER BORN (PER 1000 WOMEN) 1941, 1961 AND 1981

Age Group	1941 ¹	1961 ²	1981 ³
15-19	529*	735	429
20-24	1,003	1,327	687
25-29	1,640	2,178	1,285
30-34	2,425	2,775	1,880
35-39	3,206	3,102	2,330
40-44	3,795	3,231	2,842
45 and over	4,414	3,513	3,304
TOTAL	3,341	2,987	2,493

* Under age 20

¹ *Eighth Census of Canada, 1941*, Vol. III, Table 51

² *1961 Census of Canada*, Bulletin 4.1-8, Table H1.

³ *1981 Census of Canada*, Unpublished data.

Living Arrangements

As the country changes in its basic demographics, these trends have brought subsequent revisions to how Canadians live. Decreased fertility and increased divorce, differential male/female mortality among the increasing aged, and other social-cultural changes have had effects on the household and family.

Average household size continued its downward slide declining to less than three persons per household in 1981. In fact, the 1971-1981 decade decline (3.5 to 2.9) was the most severe in this century. The increase in number of households (37.1%) far out-paced the increase in population (12.9%) during the decade. With this rapid increase of households, one significant result is the larger proportion of Canadians living alone. By 1981, a full one-fifth of households contained one person only. This twenty percent compares with 13.4 percent in 1971 and earlier proportions of 9.3 (1961) and 7.4 (1951) percent. More striking, in its human terms, is the fact that the number of Canadians living alone more than doubled during the decade from some 812 thousand in 1971 to almost 1.7 million by 1981. Much of the growth occurred among the elderly: the proportion of persons 65 and over living alone increased by 76.6 percent between 1971 and 1981.

Migration

Between 1971 and 1981, all provinces and territories gained population (Table 4). However, among the provinces, only Alberta (37.5%) and British Columbia (25.6%) grew at levels above the national rate of increase (12.9%). In fact, over 42 percent of the population growth in Canada during the decade occurred in these two provinces although in 1981 these provinces accounted for only 20.5 percent of Canada's population. Obviously, internal migration was a major contributor to this westward redistribution of the country's population with only Alberta and British Columbia gaining population via migration. However, interprovincial migration is far more complex than merely a case of people gravitating to the West. For example, while the single largest interprovincial migration stream was the 126,730 Ontario sent to Alberta between 1976 and 1981, Ontario gained 123,710 from Québec. During the same period 39,385 Ontarians moved to Québec. The top five interprovincial migration flows revealed by the 1981 Census were:

(1) Ontario to Alberta	126,730
(2) Québec to Ontario	123,710
(3) Ontario to British Columbia	75,825
(4) Alberta to British Columbia	73,865
(5) British Columbia to Alberta	65,410

Given the volatility of interprovincial migration, how have the general patterns of migration changed in Canada? Is Canada becoming a more mobile society?

Table 4

POPULATION: CANADA, PROVINCES AND TERRITORIES, 1971 - 1981

Province/Territory			Percentage Change
	1971	1981	
	(in thousands)		
Newfoundland	522	568	+ 8.8
Prince Edward Island	112	123	+ 9.8
Nova Scotia	789	847	+ 7.4
New Brunswick	635	696	+ 9.6
Québec	6,028	6,438	+ 6.8
Ontario	7,703	8,625	+12.0
Manitoba	988	1,026	+ 3.8
Saskatchewan	926	968	+ 4.5
Alberta	1,628	2,238	+37.5
British Columbia	2,185	2,744	+25.6
Yukon	18	23	+27.8
Northwest Territories	35	46	+31.4
TOTAL	21,568	24,343	+12.9

In order to explore these questions, data from the comparable census migration question, viz., where the person lived 5 years previously, were composed (Table 5) in order to examine migration changes. The general conclusion from the overview provided by Table 5 is that, counter to popular impressions, the overall mobility rate of the Canadian people remained remarkably constant during the decade. Almost four out of five people (5 years and over) were in the same municipality five years later in all three census years (1971/76/81). Over half the population were in the same dwelling. The one discernible trend during the decade was an increase in the proportion of inter-municipal movers who changed provinces. However, the national pattern does not reveal the considerable differences between provinces in migration. For example, looking at the 1976-1981 period, among Quebec's 1,060,390 inter-municipal migrants, less than six percent were from another province. In contrast, almost 55 percent of Alberta's inter-municipal migrants were from outside Alberta. Obviously, such wide regional variations in mobility will demand thorough analysis of migration — especially in relation to other demographic characteristics and labour force participation, among other characteristics. Comparison of characteristics of the four-fifths who were not migrants versus the migrating one-fifth will reveal whether distinct new migration patterns are emerging.

Conclusion

This brief overview has indicated both significant changes and signs of stability in the basic population measures of Canadians.

Demographic changes in the age structure of the population are adding unavoidable new pressures on Canadian society. Changes in household and family structure suggest new concerns for housing and family policies. Lastly, the continuing regional redistribution of the population, principally by internal migration, will require careful study as to the effects of these regional gains and losses of people and what further population changes are likely in store for the 1980s.

Footnotes

¹ The 1981 undercoverage rate, as measured by the Reverse Record Check, was 2.01 compared to 2.04 in 1976 and 1.93 in 1971.

References

- M.V. George, *Population Growth in Canada*, Volume V (Part: 1), Profile Studies, 1971 Census of Canada, Cat. 99-701, April 1976.
- Brian R. Harrison, *Living Alone in Canada: Demographic and Economic Perspectives, 1951-1976*, Cat. 98-811 (Occasional), June 1981
- Obtaining Information from the 1981 Census**
- 1981 Census data are available in a wide variety of publications. The *National Series* gives data for Canada, the provinces and territories. The *Provincial Series* provide county, municipal and metropolitan statistics. The *Profile Series* gives compact data for specific geographic areas, e.g., Federal Electoral Districts, Census Metropolitan Areas, Census Tracts, and others.
- In addition to publications, both standard and special tabulations are offered on computer printouts, microfiche and microfilm and magnetic tapes. Maps and other geographic reference materials are available for many types of data. Direct access to information is also possible through CANSIM, Statistics Canada's machine-readable data base and retrieval system.
- For a free copy of *Products and Services of the 1981 Census of Canada* or general information contact our closest regional reference centre.

Table 5

MOBILITY STATUS, POPULATION 5 YEARS AND OVER.
1966-1971; 1971-1976; 1976-1981

	1971	(percent) 1976	1981
Stayed in same municipality	79.4	77.6	79.2
<i>Non-movers (same dwelling)</i>	54.9	53.3	53.7
<i>Moved to different dwelling</i>	24.5	24.3	25.5
Moved to another municipality	20.6	22.4	20.8
<i>in same province</i>	14.6	17.0	15.5
<i>in different province</i>	4.5	4.5	5.3
<i>not stated¹</i>	1.5	.9	—
TOTAL	100.0	100.0	100.0
(Number '000s)	(19,717)	(21,239)	(22,280)

¹Moved but province of residence at beginning of period not stated

Average Persons per Household



1981 Census of Population (Part 2): Socio-cultural Highlights

*E.T. Pryor

The decennial census is a rich source of information on the social and cultural backgrounds of Canadians. The 1981 Census provides data on our origins (ethnicity, place of birth, immigration), language (mother tongue, home language, official language use), and religion.

An initial analysis of the 1981 Census data leads to two basic observations:

- (1) the social characteristics of Canada underwent important changes during the 1970s and
- (2) regional cultural differences persist and, in some ways, were accentuated by the changes during the past decade.

Origins of Canadians

Ethnicity. For the first time, in the 1981 Census respondents could supply more than one ethnic origin. Still, the vast majority (92.4%) identified a single ethnicity only. Across the country, British and French accounted for two-thirds of those indicating a single origin. Among those providing multiple origins (1,838,615 persons), some 1.52 million (82.8%) involved some combination of at least English and/or French. Table 1 provides an over-view of ethnicity in 1981. The proportion of the population declaring multiple origins varied among the provinces from 2.9% in Newfoundland to 12.3% in Alberta. Looking at the provinces and territories in terms of the percentage of

non-British/French responses, the differences are pronounced. Two provinces (Manitoba and Saskatchewan) have a majority of non-British/French origins. German is the most prominent in both these provinces accounting for 10.7% in Manitoba and 16.9% in Saskatchewan. Although British is widely distributed across Canada (except in Quebec), almost four-fifths (79.3%) of the French origin population is concentrated in Quebec. In fact, 93.3% of the French (single origin) response is contained within Quebec, Ontario and New Brunswick. Canada remains a country of regional contrasts from the British homogeneity of Newfoundland to the variety of European backgrounds of the prairies. Clearly, no one cultural background is predominant for the country. British claims some 43.5% of (single) responses with French (29.0%) and "other" (27.6%) almost equal. Table 2 presents the diversity of the largest ethnic backgrounds in Canada.

Place of Birth. Looking at the population by place of birth by present residence offers another interesting regional contrast. Table 3 summarizes the regional variations. The contrast, at the extreme, among the provinces of Newfoundland (94.1%) versus British

* 1981 Census Manager, D. Norris, L. Albert and I.P. Fellegi provided invaluable assistance in the preparation of this text.

TABLE 1

Distribution of Population by Ethnic Origin,
Canada and Provinces/Territories, 1981

Province	Total		Single Origin	Multiple Origin	Total	For Single Origin		
	Number	Percent				British	French	Other
Newfoundland	563,750	100.0	97.1	2.9	100.0	94.9	2.8	2.3
Prince Edward Island	121,225	100.0	92.8	7.2	100.0	82.9	13.1	3.9
Nova Scotia	839,805	100.0	91.4	8.6	100.0	79.3	9.3	11.4
New Brunswick	689,375	100.0	94.2	5.8	100.0	56.8	38.7	4.5
Quebec	6,369,065	100.0	98.0	2.0	100.0	7.8	81.8	10.4
Ontario	8,534,285	100.0	90.8	9.2	100.0	57.9	8.4	33.7
Manitoba	1,013,705	100.0	90.0	10.0	100.0	41.0	8.1	50.9
Saskatchewan	956,440	100.0	89.2	10.8	100.0	42.9	5.5	51.6
Alberta	2,213,650	100.0	87.7	12.3	100.0	49.6	5.8	44.6
British Columbia	2,713,615	100.0	88.7	11.3	100.0	57.6	3.8	38.6
Yukon	23,075	100.0	84.9	15.1	100.0	51.4	5.5	43.1
Northwest Territories	45,540	100.0	92.5	7.5	100.0	24.2	4.2	71.6
Canada	24,083,500	100.0	92.4	7.6	100.0	43.5	29.0	27.6

Columbia (46.3%) of present population born in that province is indicative of the trends in internal migration. The fact that almost a quarter of the population of Ontario (23.7%) and British Columbia (23.3%) were born outside Canada infers the attractiveness of these regions to immigrants. In 1981, over half (52.4%) of persons born outside Canada were living in Ontario. In general, some 3,867,160 persons or 16.1% of the population, were foreign born.

Immigration. Obviously, immigrants are an important ingredient of Canadian culture. Table 4 highlights our changing immigration pattern since World War II. By any standards, the changes are profound. Persons immigrating to Canada between 1945 and 1954 were

TABLE 2
Fifteen Largest Ethnic Origins,
Canada, 1981

Origin	Number
1. British	9,674,245
2. French	6,439,100
3. German	1,142,365
4. British and other	859,800
5. Italian	747,970
6. Ukrainian	529,615
7. British and French	430,255
8. Native Peoples	413,380
9. Dutch	408,240
10. Chinese	289,245
11. Scandinavian	282,795
12. Jewish	264,025
13. Polish	254,485
14. European and other ¹	238,455
15. Portuguese	188,105

¹ Includes European, Jewish and Other origins not included elsewhere.

overwhelmingly (92.5%) European while during the period 1978-1981 Europe only contributed 29.7% of immigrants to Canada. In the decade after the war Asia contributed less than three percent of all immigrants but by 1978-1981 Asians accounted for 43.8% of all immigrants.

This data from the 1981 Census on ethnicity and sources of immigration point to the changing cultural composition of the Canadian population. Our ethnicity is becoming more diverse and complex. Both in terms of our ethnic background and the source regions of immigration, the trends are towards greater heterogeneity. British, although still the largest, has gradually declined over the past 60 years as Canada's dominant ethnic group (Figure 1). French has remained relatively stable at about 30 percent of ethnic origins. Since 1921, the increase in other ethnic groups was principally of European origin (with German, Italian, Netherlands and Ukrainian predominant). In terms of immigration, Figure 2 shows the important changes in origins of immigrants since 1921. As shown, both the United Kingdom and the United States have proportionally decreased as sources of immigrants. Other European sources peaked in 1961 with other countries increasing to over 25 percent by 1981. Substantiating the changing cultural context, by 1981, Asia alone contributed over 14 percent of all immigrants.

TABLE 3
Distribution of Population by Place of Birth,
Canada and Provinces/Territories, 1981

Province	Population	Total	Percentage Distribution		
			Born in Canada		Born Outside Canada
			Same Province	Other Province	
Newfoundland	563,750	100.0	94.1	4.2	1.7
Prince Edward Island	121,220	100.0	81.2	15.1	3.8
Nova Scotia	839,800	100.0	81.5	13.6	5.0
New Brunswick	689,375	100.0	82.8	13.2	4.0
Quebec	6,369,065	100.0	88.0	3.8	8.3
Ontario	8,534,265	100.0	56.1	10.1	23.7
Manitoba	1,013,700	100.0	71.7	13.9	14.4
Saskatchewan	956,440	100.0	78.0	13.3	8.8
Alberta	2,213,655	100.0	54.0	29.5	16.5
British Columbia	2,713,615	100.0	46.3	30.5	23.3
Yukon	23,075	100.0	30.1	57.4	12.5
Northwest Territories	45,535	100.0	56.7	37.2	6.1
Canada	24,083,495	100.0	71.0	13.0	16.1

TABLE 4
Distribution of Immigrant Population by Place of Birth, 1981

	Total	Period of Immigration						
		Before 1945	1945-1954	1955-1964	1965-1969	1970-1974	1975-1977	1978-1981
Total Number	3,843,335	544,135	676,810	767,455	591,835	576,870	346,850	339,375
Percent Distribution								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Europe	66.69	78.29	92.49	85.86	66.80	41.23	34.14	29.67
U.S.A.	7.85	18.51	2.78	4.33	6.57	9.54	7.96	7.87
Central and South America	2.78	0.23	0.44	1.04	2.14	6.07	7.72	5.95
Caribbean Islands	4.46	0.26	0.51	1.59	5.91	10.82	10.09	6.46
Southeast Asia	3.96	0.05	0.21	0.39	1.95	5.41	7.85	22.86
Other Asia	10.11	1.55	2.34	4.25	11.32	19.43	23.51	20.97
Africa	2.65	0.19	0.24	1.63	3.38	5.29	6.26	4.22
Oceania	0.86	0.17	0.31	0.49	1.20	1.45	1.68	1.44
Other	0.64	0.75	0.69	0.42	0.62	0.77	0.79	0.55

Language

Both mother tongue ("language first learned and still understood") and home language pointed to a distinct tendency, if slight, to a higher growth of English at the expense of French. (See Table 5). This is due, in unknown proportions, to the following factors: more immigrants assimilate into the English language group, there are substantially higher Anglophone immigrants than Francophones, the birth rate in Quebec is lower than in the rest of the country, and there continues to be a net Anglophone gain (although very slight) through assimilation.

Obviously, a fundamental question is whether the national level trends by official cultures/languages are subject to regional variations. Contrasting Quebec and the other provinces (see Table 6) gives first indications of regional differences in trends. The general pattern indicated by Table 6 is apparent, i.e., French increased its prominence in Quebec during the 1970s while outside Quebec English gained. Given that the position of "other" languages changed relatively less, the trade-offs have basically been between the two official languages.

These two tables (5 and 6) beg the question as to what has been the interaction between English and French in that these 1971-1981 changes could be caused by both language realignment via internal migration and assimilation. Table 7 attempts to give some precision to the relationship of mother tongue to home language between 1971 and 1981. Certain 1971 to 1981 changes stand out. In Quebec, French as a language increased its proportion at a rate faster than the growth of the population (5.7%). This was partly due to the 17.6% decline in the English mother tongue/English home language population, largely through emigration. The proportion of persons with English mother tongue who used French at home also increased substantially (67.4%), although in absolute numbers there was a growth almost as large among those with French mother tongue who used English at home in 1981. Outside of Quebec, French lost ground with the 29,555 (-4.5%) decline in the French mother tongue/French home language population perhaps being the most significant indicator. Although small in absolute numbers, there has been a very large proportional increase (99.8%) in the number of persons whose mother tongue is English but who used French at home in 1981.

Looking at Canada level changes, the data point to the gains of English mother tongue/English home language (+13.3%) versus only a smaller (5.7%) increase for the corresponding French group. In absolute terms the French mother tongue/English home language group grew by slightly more (about 10,000 persons) than English mother tongue/French home language group; however, in percentage growth terms, the reverse is true.

These and related numbers presented in Tables 5, 6 and 7 will be the subjects of considerable analysis and debate for some time. Only after very careful and thorough analysis can firm conclusions be reached as to the language trends (transfer, assimilation, mobility, etc.) taking place in Canada.

TABLE 5

Percentage Distribution of the Population by Mother Tongue and by Home Language, Canada, 1971 and 1981

	Total	English	French	Other
Mother Tongue				
1971	100.0	60.1	26.9	13.0
1981	100.0	61.2	25.6	13.1
Home Language				
1971	100.0	67.0	25.7	7.3
1981	100.0	68.2	24.6	7.2

TABLE 6

Percentage Distribution of the Population by Mother Tongue and by Home Language, Quebec and Other Provinces/Territories, 1971 and 1981

	Total	English	French	Other
Mother Tongue				
Quebec				
1971	100.0	13.1	80.7	6.2
1981	100.0	10.9	82.4	6.7
Other Provinces/Territories				
1971	100.0	78.4	6.0	15.7
1981	100.0	79.4	5.2	15.4
Home Language				
Quebec				
1971	100.0	14.7	80.8	4.5
1981	100.0	12.7	82.5	4.8
Other Provinces/Territories				
1971	100.0	87.2	4.3	8.4
1981	100.0	88.2	3.8	8.1

TABLE 7

Changes¹ in the Population by Mother Tongue Showing Home Language, Canada, Quebec, Other Provinces and Territories, 1971-1981

CANADA					
Home Language					
Mother Tongue	English	French	Other	Total	
English	1,705,990 (13.3)	53,245 (76.8)	23,810 (27.9)	1,783,050 (13.8)	
French	63,645 (18.3)	312,115 (5.7)	7,745 (86.2)	383,510 (6.6)	
Other	210,035 (16.3)	11,640 (28.8)	126,975 ² (8.6)	348,625 (12.4)	
Total	1,979,665 (13.7)	376,990 (6.8)	158,535 (10.0)	2,515,185 (11.7)	
QUEBEC					
Home Language					
Mother Tongue	English	French	Other	Total	
English	-128,760 (-17.6)	33,070 (67.4)	1,775 (18.0)	-93,915 (-11.9)	
French	32,850 (44.7)	341,670 (71.1)	7,510 (17.9)	382,030 (7.8)	
Other	17,180 (20.3)	11,980 (34.6)	24,015 ² (9.5)	53,185 (14.3)	
Total	-78,725 (-8.9)	386,725 (7.9)	33,300 (12.3)	341,300 (5.7)	
OTHER PROVINCES AND TERRITORIES					
Home Language					
Mother Tongue	English	French	Other	Total	
English	1,834,750 (15.2)	20,175 (99.8)	22,035 (29.2)	1,876,965 (15.4)	
French	30,795 (11.2)	-29,555 (-4.5)	295 (9.2)	1,460 (0.2)	
Other	192,855 (16.0)	-340 (-5.9)	102,955 ² (8.4)	295,440 (12.1)	
Total	2,058,400 (15.2)	-9,735 (-1.4)	125,225 (9.6)	2,173,895 (14.0)	

- 1: The numerical changes were obtained by subtracting the 1971 figures from the corresponding 1981 figures. The percentage changes (parentheses) represent the ratio of the numerical changes to the 1971 figures.
- 2: This figure is a residual and includes both the persons who have the same mother tongue and home language, other than English or French, and the persons with different mother tongues and home languages other than English or French.

Official Language Use. Between 1971 and 1981 the bilingual population of Canada increased from 13.5 to 15.3 percent of the population. The most significant gains were in Quebec (27.6 to 32.4%) and New Brunswick (21.5 to 26.5%), the provinces with the highest proportion bilingual in any case. Again, there were considerable differences in provincial trends. In fact, the proportion of the bilingual population actually declined in Prince Edward Island, Manitoba and Saskatchewan. As Table 8 shows, English remains the singular language of two-thirds of Canadians — unchanged since 1971. However, the number able to use both English and French increased by 27 percent. As Table 10 shows, in both absolute and percentage terms the most dramatic increase in the incidence of bilingualism occurred among Anglophones: from over 700,000 in 1971 to over 1.1 million in 1981 — an increase of almost 60%. In 1981, of the almost 3.7 million reporting that they are bilingual, 1.1 million (30%) are English by mother tongue with 2.2 million (61%) French. Of the 2.9 million bilingual in 1971, 24% had English and 68% French mother tongue. More specific information regarding the origins of the bilingual population must wait analysis by age, education and other related characteristics.

Religion

Canada is one of the few countries in the world collecting census data on religion. Identification with or adherence to specific religions has been viewed as an important determinant of Canadians values and cultural views. To portray the diversity of religions in Canada, for the 1981 Census over 80 religious groups were coded

and classified. Although the number of Canadians responding "no religion" amounted to 7.3% of the population that also means that almost 93% did declare a religion. For convenience, Table 11 combines these religions into Catholic, Protestant, Other Religion, and No Religion. Again, regional contrasts are readily apparent. Catholic varies from 88.2% in Quebec to 19.8% in British Columbia. Protestant ranges from 62.6% in Newfoundland to only 6.4% in Quebec. The "no religion" category also varies widely across the country from one percent in Newfoundland to over 20% in British Columbia. Religion data from the 1981 Census reinforce the picture of cultural variation across Canada.

Conclusion

The 1981 Census data on language, ethnicity, immigration, place of birth and religion provide important measures of social change. The initial review presented here points to: (1) the persistence of wide provincial/regional cultural differences; (2) regional contrasts by language that have become even more accentuated than previously; (3) the gradual but distinct

TABLE 10

Distribution of Population Able to Speak Both English and French by Mother Tongue, Canada 1971 and 1981

		Mother Tongue			
		Total	English	French	Other
1971	Number ('000)	2,900	711	1,971	218
	Percent	100.0	24.5	68.0	7.5
1981	Number ('000)	3,682	1,114	2,236	332
	Percent	100.0	30.3	60.7	9.0

TABLE 8

Distribution of Official Languages by Mother Tongue, Canada 1971 and 1981

Mother Tongue	Total	Official Languages Spoken			
		English only	French only	Both English and French	Neither French nor English
English					
1971	100.0	94.5	n.a.	5.5	n.a.
1981	100.0	92.3	0.1	7.6	0.1
French					
1971	100.0	n.a.	66.0	34.0	n.a.
1981	100.0	0.7	63.1	36.2	0.0
Other					
1971	100.0	78.8	2.1	7.8	11.4
1981	100.0	78.1	2.5	10.5	8.9
Total					
1971	100.0	67.1	18.0	13.5	1.5
1981	100.0	67.0	16.6	15.3	1.2

Note: n.a. — not applicable in 1971 because of edit restrictions.

TABLE 9

Distribution of Population by Official Languages Spoken, Canada 1971 and 1981

		Total	Official Languages Spoken			
			English only	French only	English and French	Neither
1971	Number ('000)	21,568	14,470	3,879	2,900	319
	Percent	100.0	67.1	18.0	13.5	1.5
1981	Number ('000)	24,083	16,123	3,987	3,682	291
	Percent	100.0	67.0	16.6	15.3	1.2

change in the sources of immigrants from Europe and the United States to other parts of the world; and (4) the effects on Canadian society of migration on internal population distribution. In summary, Canada remains a country of cultural contrasts.

Obtaining Information from the 1981 Census

1981 Census data are available in a wide variety of publications. The *National Series* gives data for Canada, the provinces and territories. The *Provincial Series* provide county, municipal and metropolitan statistics. The *Profile Series* gives compact data for specific geographic areas, e.g., Federal Electoral Districts, Census Metropolitan Areas, Census Tracts, and others.

In addition to publications, both standard and special tabulations are offered on computer printouts, microfiche and microfilm and magnetic tapes. Maps and other geographic reference materials are available for many types of data. Direct access to information is also

possible through CANSIM, Statistics Canada's machine-readable data base and retrieval system.

For a free copy of *Products and Services of the 1981 Census of Canada* or general information contact our closest regional reference centre.

References

John Kralt, *Ethnic Origins of Canadians*, Volume V (Part: 1), Profile Studies, 1971 Census of Canada, Cat. 99-709, May 1977

Statistics Canada, *Population: Ethnic Groups*, Volume 1 (Part: 3), 1971 Census of Canada, Cat. 92-723, October 1973

Statistics Canada, *Population: Birthplace*, Volume 1 (Part: 3), 1971 Census of Canada, Cat. 92-727, November 1974

TABLE 11
Population by Religion Groups, Canada and
Provinces/Territories, 1981

	Number	Percent Total	Catholic	Protestant	Other Religion	No Religion
CANADA	24,083,495	100.0	47.4	41.2	4.1	7.3
Newfoundland	563,750	100.0	36.3	62.6	0.1	1.0
Prince Edward Island	121,225	100.0	46.6	50.5	0.3	2.6
Nova Scotia	839,800	100.0	37.0	58.0	1.0	4.0
New Brunswick	689,370	100.0	53.9	42.9	0.4	2.8
Quebec	6,369,070	100.0	88.2	6.4	3.3	2.1
Ontario	8,534,260	100.0	35.6	51.8	5.5	7.1
Manitoba	1,013,705	100.0	31.5	56.6	4.6	7.3
Saskatchewan	956,440	100.0	32.4	58.3	3.1	6.2
Alberta	2,213,650	100.0	27.7	56.0	4.8	11.5
British Columbia	2,713,615	100.0	19.8	54.7	5.0	20.5
Yukon	23,075	100.0	24.3	53.4	2.8	19.5
Northwest Territories	45,540	100.0	40.3	52.0	1.3	6.4

Figure 1
Distribution of Major Ethnic Groups, Canada, 1921-1981

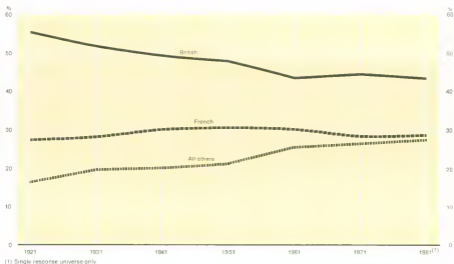


Figure 2
Distribution of Foreign Born by Major Origins, Canada, 1921-1981

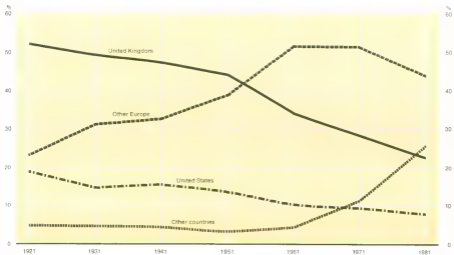


Figure 3

Decade Change, 1971-1981

(Percent change)

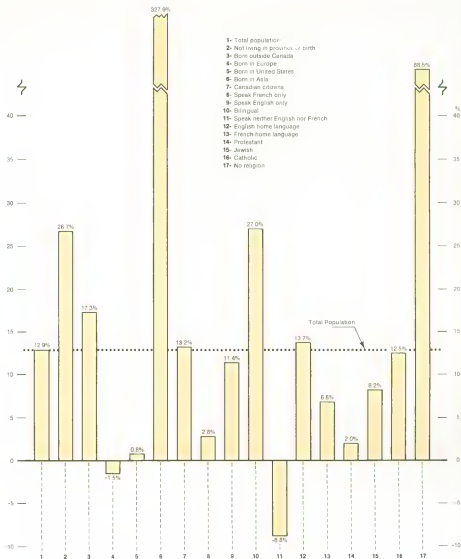
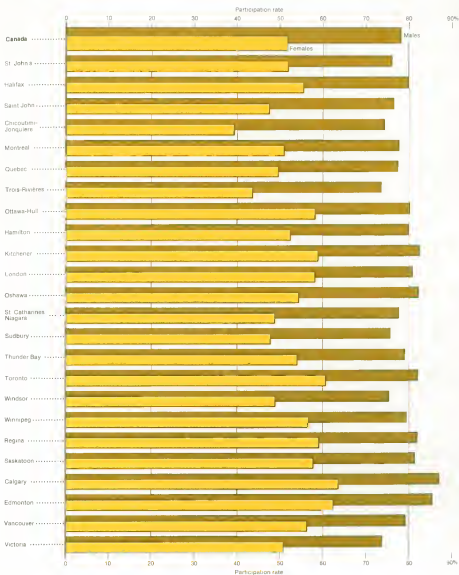


Figure 1
Labour Force Participation Rates for Males and Females,
Census Metropolitan Areas, 1981



1981 CENSUS OF POPULATION (PART 3):

Changes in Canada's Labour Force During the 1970s

*Douglas Norris and Pat Grainger

Introduction

This is the third in a series of articles that provide highlights from the 1981 Census of Population. This paper summarizes some of the characteristics of Canada's labour force at the time of the census in June 1981 and some of the changes that occurred during the 1970s.¹

The 1981 Census of Population collected a wide range of data on the labour force including labour force status in the week before the Census; data on class of worker, industry, occupation and place of work for the persons who had worked since January 1980; and work experience, including weeks worked and whether these were mostly part time or full time, and earnings and other sources of income for calendar year 1980.

Labour Force Growth and Participation

Over the past three decades Canada's labour force has experienced the fastest growth among major western industrialized countries. During the 1970s 3.4 million persons were added to the labour force, an increase of 39 per cent compared to a growth of 12.9 per cent in total population. This growth rate was the highest in this century and was substantially higher than the growth of

approximately 25 per cent during the 1950s and 1960s. The growth during the 1970s was mainly due to the baby boom cohorts reaching the working ages and the continuing increase in labour force participation among married women. TABLE 1 shows the size and growth of the labour force for youths and adults over the 1971-1981 decade. The growth was 64 per cent for females compared to 26 per cent for males. Of the total growth of 3.4 million, more than one quarter was accounted for by growth in the youth labour force, one third by the growth in males 25 years and over and 41 per cent by the growth in females 25 years and over.

In 1981, the overall participation rate for the population 15 years of age and over was 65 per cent, up from 58 per cent in 1971. The male participation rate was 78 per cent, a small increase from 1971 while the female participation rate rose from 40 to 52 per cent during the decade. The increasing participation of women was especially high for married women in the prime child

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TABLE 1

POPULATION 15 YEARS OF AGE AND OVER IN THE LABOUR FORCE SHOWING
a) COUNT, NUMERICAL AND PERCENTAGE CHANGE AND
b) PARTICIPATION RATES, BY AGE GROUPS AND SEX FOR CANADA, 1971 AND 1981.

	1971	1981	Change	Percentage Change	Participation Rates	
	'000'	'000'			1971	1981
Both Sexes	8,813	12,267	3,454	39.2	58.0	65.0
15-24 years	2,293	3,214	921	40.2	57.3	69.0
25 years and over	6,520	9,053	2,533	38.8	58.3	63.7
Males	5,760	7,267	1,507	26.2	76.3	78.5
15-24 years	1,317	1,723	406	30.9	65.3	73.1
25 years and over	4,443	5,544	1,101	24.8	80.5	80.3
Females	3,053	5,000	1,947	63.8	39.9	52.0
15-24 years	976	1,491	515	52.8	49.3	64.7
25 years and over	2,077	3,509	1,432	68.9	36.6	48.0

Figure 2:
 Percentage Distribution of Persons 15 years and Over
 in the Experienced Labour Force by Highest Level of Schooling,
 for Age Groups 25-34, 35-54 and 55 Years and Over, Canada, 1981



bearing ages of 25-44. During the 1970s the number of married women 25-44 in the labour force doubled from 900 thousand to 1.8 million and their participation rate increased from 40 per cent to 62 per cent.

Labour force participation varies widely among different population groups. For example TABLE 2 shows the participation rates for selected ethnic groups. Aside from the native peoples who have very low participation rates, the rates for males range from a high of 83.6 per cent for persons of Dutch origin to 76.3 per cent for persons of French origin. For females, the variations are much larger and the ranking of the ethnic groups is quite different. Of interest is the fact that females who reported multiple ethnic origins have a much higher participation rate (61.2 per cent) than those that reported a single origin (51.2 per cent). This may be due to differences by age or education, among the groups reporting multiple origins. Among women reporting a single ethnic origin, participation was highest for Chinese and other Asians (61 per cent) and lowest for those with French origins.

The growth in labour force varied widely across the country in most cases reflecting the impact of migration patterns. The Yukon, followed by Alberta, British Columbia and Newfoundland showed the highest growth rates while Manitoba and Saskatchewan showed the lowest. The growth in Newfoundland was mainly due to a substantial increase in the participation rate, from 46 per cent in 1971 to 58 per cent in 1981, although Newfoundland continues to have the lowest participation rate among the provinces and territories. The Yukon (76 per cent) and Alberta (72 per cent) have the highest participation rates.

TABLE 2
PARTICIPATION RATES FOR SELECTED ETHNIC
ORIGINS BY SEX, CANADA, 1981

Ethnic Origin	Male	Female
Multiple Origins	81.0	61.2
Single Origin	78.0	51.2
British	77.8	51.5
French	76.3	47.9
German	82.2	53.1
Italian	82.0	55.2
Ukrainian	77.9	53.7
Dutch	83.6	52.1
Scandinavian	78.6	51.7
Chinese	79.0	61.0
Other Asiatic	83.4	60.8
Native Peoples	60.7	36.7

TABLE 3
EXPERIENCED LABOUR FORCE 15 YEARS AND OVER BY
HIGHEST LEVEL OF SCHOOLING, CANADA 1981

	Number	Percentage
	('000)	
Less than grade 9	1598	13.3
Grade 9-13 without certificate	2940	24.4
Grade 9-13 with high school certificate	1696	14.1
Trade certificate or diploma	1488	12.3
Some post secondary without certificate	1458	12.1
Post secondary with certificate or diploma	1582	13.1
University degree	1291	10.7
Total	12054	100.0

Participation rates also varied widely among sub-provincial regions. Figure 1 shows the participation rates for males and females for the Census Metropolitan Areas. For males, rates ranged from a high of 87.3 per cent in Calgary to a low of 73.6 per cent in Trois Rivières. For females the range in participation was much wider. Again Calgary had the highest rate of 63.7 per cent but Chicoutimi Jonquière had the lowest (39.3 per cent). In general participation rates were lower in the metropolitan areas in Québec and the Atlantic Provinces. There were also substantial variations within provinces. For example, in Ontario participation rates for males ranged from 75.5 per cent in Windsor to 82.7 per cent in Kitchener while the rates for females ranged from 47.9 in Sudbury to 60.7 per cent in Toronto.

Characteristics of the Labour Force Education

During the 1970s Canada's labour force become more highly educated reflecting in part the expansion of post secondary education facilities during the 1960s and 1970s. TABLE 3 shows the distribution of the experienced labour force by highest level of schooling. Just under 63 per cent of the labour force had at least a high school certificate and 11 per cent had a university degree. At the other extreme 1.6 million persons, or 13 per cent of the labour force had less than a grade nine education. An increasingly important aspect of the educational qualifications of the labour force is the emergence of non-university post secondary education training. In 1981, 1.5 million persons had a trade certificate while a further 1.6 million had a non-degree certificate or diploma generally from a community college, institute of technology, private trade or vocational school or government manpower training program.

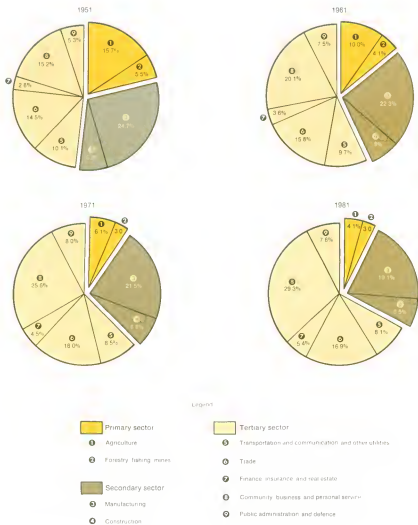
The progression in the educational qualifications of the labour force can be seen by considering different age cohorts. Figure 2 shows the distribution of the labour force by highest level of schooling for persons aged 25-34, 35-54 and 55 and over in 1981. For the oldest cohort, over one half have less than a high school certificate while only 5 per cent have a university degree. For the youngest cohort born in the decade following the end of World War II, less than one in four had less than a high school graduation certificate and 17 per cent had a university degree.

Industrial Structure

During the post war years the industrial structure of Canada's labour force has gradually shifted away from the primary industries, in particular agriculture, to the finance and service related industries. Figure 3 shows the distribution of the labour force by industry sector in 1951, 1961, 1971 and 1981. Agriculture, that accounted for 16 per cent of the labour force in 1951, made up only 4 per cent in 1981. On the other hand, the community, business and personal services industries increased from 15 per cent to 29 per cent of the labour force in 1981. Over the past three decades the manufacturing industries grew at a below average rate and the manufacturing share of the labour force

Figure J

Percentage Distribution of the Experienced Labour Force by Industry Sectors, Canada, 1951, 1961, 1971 and 1981



(1) Excludes unqualified, unapprenticed or untrained

decreased from 25 per cent in 1951 to 19 per cent in 1981.

TABLE 4 shows the labour force and 1971-1981 growth by industry division. During the 1970s, the labour force in the division "finance, insurance and real estate" grew by 74 per cent compared to an overall increase of 39 per cent in the experienced labour force. Most of this increase was due to growth in the banking and real estate sectors.

The second fastest growing industry division was "community, business and personal services." This division, that in 1981 accounted for nearly 3 of every 10 workers, is comprised of a range of services including health, education and welfare services, personal services (e.g. barber shops, laundries, etc), services to business management, amusement and recreation services (e.g. motion picture theatres, golf clubs, etc) and accommodation and food services. During the 1970s there was virtually no growth in the personal services sector. In the educational sector that comprises just under one quarter of this service division, there was a below average growth of 35 per cent due to decreasing enrollments in primary and secondary institutions. However, there was a more than doubling of the workforce in post secondary non-university educational institutions. In the health sector that comprises a further 20 per cent of this division, the labour force increased by 54 per cent. Within the division the highest growth

rates were experienced by welfare organizations (+151%), services to business management (+130%) and accommodation and food services (+101%).

The industry divisions growing at below average rates were agriculture and manufacturing. Although the agricultural labour force showed no growth during the decade, this represented the first decade since the 1930s that there was no decline in the actual numbers in the agricultural labour force. The manufacturing sector grew by 30 per cent, the lowest after agriculture although again there were wide variations within the division. Growth in the rubber and plastics products, wood, furniture and fixtures and machinery industries exceeded 50 per cent. On the other hand the labour force in the tobacco products industries decreased by 8 per cent and there were only small increases of less than 15 per cent in the leather and electrical products industries.

The public administration and defense industries grew by 39 per cent, the same as the total labour force. In 1981 these industries accounted for 7.6 per cent of the labour force. TABLE 5 shows the breakdown of this group by level of government. The federal administration accounts for nearly half of this group and during the decade the growth in the federal administration was 17 per cent, accounted for by a 12 per cent decline in defense services and a 39 per cent increase in other federal services. On the other hand the

TABLE 4
NUMERICAL AND PERCENTAGE DISTRIBUTION OF THE 1981
EXPERIENCED LABOUR FORCE BY INDUSTRY DIVISION,
SHOWING PERCENTAGE CHANGE 1971-1981, CANADA

	Experienced Labour Force 1981	Percentage Distribution	Percentage Change 1971-1981
	('000)		
Finance, insurance and Real Estate	621	5.4	73.5
Community, Business and personal services	3399	29.3	66.5
Trade	1958	16.9	54.2
Forestry, fishing and trapping and mines	348	3.0	45.6
Construction	752	6.5	39.8
Transportation, communication and other utilities	936	8.1	39.4
Public administration and defense	887	7.6	38.6
Manufacturing	2219	19.1	30.0
Agriculture	481	4.2	0.0
Subtotal	11,601	100.0	46.0
Unspecified and Undefined	404	—	-40.7
Total	12,005	—	39.2

TABLE 5
NUMERICAL AND PERCENTAGE DISTRIBUTION OF THE 1981 EXPERIENCED
LABOUR FORCE FOR THE INDUSTRY DIVISION
"PUBLIC ADMINISTRATION AND DEFENSE"
SHOWING PERCENTAGE CHANGE 1971-1981, CANADA

	Experienced Labour Force 1981	Percentage Distribution	Percentage Change 1971-1981
	('000)		
Federal Administration	386	43.5	17.3
Defense	123	13.8	-12.2
Other	263	29.6	39.1
Provincial Administration	261	29.4	61.8
Local Administration	238	26.8	61.8
Total ¹	887	100.0	38.6

¹Includes a small number of other government administration

provincial and local administrations grew much more rapidly during the decade, each increasing by 62 per cent.

Occupational Composition

The 1981 Census classified the labour force by more than 500 individual occupations, 86 minor groups and 23 major groups. The distribution of the labour force by 15 categories (11 major groups and four major categories) is shown in TABLE 6. The largest group is the clerical and related occupations accounting for nearly one in every five workers. Service occupations such as policemen, chefs, barbers, janitors etc. make up 12 per cent of the labour force and sales occupations another 10 per cent.

During the 1970s, the labour force in managerial and administrative occupations grew most rapidly followed by the technical, social and cultural occupations. The expansion in the managerial occupations reflected the increased specialization and emphasis on financial management (+562%), sales management (+458%) and personnel and industrial relations management (+494%). Within the technical, social and cultural sector, growth was particularly high for occupations related to social services, law, library science, the performing arts, writing and sports. The major groups growing the least during the 1970s were those of an agriculture, forestry and mining nature and blue collar occupations such as those related to machining, materials handling and other crafts and equipment operating.

An important characteristic of the census data is the detailed level of industry and occupation coding. TABLE 7 shows the 10 largest individual occupations and their growth during the 1970s. In 1981, the largest occupation was salespersons/sales clerks with 493,000 persons followed by 406,000 bookkeepers and accounting clerks, 372,000 secretaries and stenographers and 234,000 waiters, hostesses and stewards. Among the 10 largest occupations, bookkeepers and accounting clerks and tellers and

cashiers grew most rapidly, both more than doubling during the decade. The number of farmers showed a slight decrease while the number of sales supervisors grew by only 11 per cent and the number of elementary and kindergarten teachers by 19 per cent. The slow growth in sales supervisors may be explained by the fact that persons may have reported themselves as sales supervisors in 1971 but as sales managers in 1981.

TABLE 8 shows the 10 fastest growing occupations with at least 20,000 persons outside the managerial and

TABLE 7
TEN LARGEST OCCUPATIONS IN EXPERIENCED
LABOUR FORCE SHOWING 1981 COUNT AND PERCENTAGE
CHANGE 1971-1981, CANADA

Occupation	Experienced Labour Force 1981	Percentage Change 1971-1981
	('000)	
Salespersons/Sales clerks	493	54.9
Bookkeepers and accounting clerks	406	101.1
Secretaries and stenographers	372	51.1
Sales supervisors commodities	277	10.7
Truck drivers	270	34.6
Tellers and cashiers	247	118.3
Janitors, charworkers and cleaners	235	39.0
Waiters, hostesses and stewards	234	84.2
Farmers	226	-3.4
Nurses	176	68.0

TABLE 8
EXPERIENCED LABOUR FORCE SHOWING PERCENTAGE
CHANGE 1971-1981, FOR SELECTED OCCUPATIONS WITH A
MINIMUM OF 20,000 PERSONS IN 1981, CANADA

Occupation	Experienced Labour Force 1981	Percentage Change 1971-1981
Community college and vocational school teachers	30,320	237.6
Electronic data-processing equipment operators	76,810	182.2
Systems analysts and computer programmers	61,065	171.7
Bartenders	34,440	163.5
Social workers	31,210	163.4
Real estate salesmen	56,785	158.2
Occupations in welfare and community services	44,865	151.5
Fish canning, curing and packing occupations	33,220	129.1
Cabinet and wood furniture makers	28,170	126.5
Tellers and cashiers	247,490	118.3

TABLE 6

NUMERICAL AND PERCENTAGE DISTRIBUTION
OF THE 1981 EXPERIENCED LABOUR FORCE
BY OCCUPATION, SHOWING PERCENTAGE CHANGE
1971-1981, CANADA

Occupation	Experienced Labour Force 1981	Percentage	Percentage Change 1971-1981
	('000)		
Managerial and administrative	814	7.0	118.7
Technical, social and cultural	789	6.8	89.2
Clerical	2191	18.9	59.5
Medicine and health	519	4.5	59.0
Service	1431	12.4	47.5
Product fabricating, assembling and repairing	930	8.0	46.7
Sales	1146	9.9	40.5
Teaching and related	489	4.2	40.1
Construction trades	770	6.6	35.4
Processing and machining	779	6.7	35.3
Transport equipment operating	459	3.9	35.1
Primary occupations other than farming	197	1.7	28.0
Other occupations	565	4.9	17.2
Farming, horticultural and animal husbandry	509	4.4	-0.7
Subtotal	11587	100.0	46.9
Not Stated	419	—	-43.2
Total	12005	—	39.2

administrative group. In the management group there were three and four fold increases in many of the individual occupations. Part of these increases may be due to increases in specialization in the management field and part to changes in job reporting for example from "accountant" to "financial management." Of the 10 occupations listed in TABLE 8, community college and vocational school teachers had the highest growth rate followed by systems analysts and computer programmers, electronic data-processing operators and bartenders.

As indicated earlier, during the 1970s the female labour force grew much more rapidly than the male labour force. The female experienced labour force actually increased by 64 per cent compared to a 26 per cent increase for males. Traditionally, the female labour force has been concentrated in female dominated clerical, health and teaching occupations. As shown in TABLE 9, in 1981 more than half of all women reported an occupation in one of these three groups and in fact 36 per cent reported a clerical occupation. The concentration of the female labour force in these three groups dropped slightly during the decade due to a decrease in the percentage of women in teaching and health related occupations but a partially counterbalancing increase in the percentage of women in clerical occupations. The high rates of growth in the female labour force actually resulted in the health related and clerical occupations being even more female dominated in 1981 compared to 1971. On the other hand women did make some inroads into certain male dominated occupations as there were over five times more female engineers, six times more lawyers,

three times as many accountants and over four times as many bus drivers as than a decade ago.

Work Experience in 1980

As shown in Figure 4, in 1980 nearly one third of women worked mostly on a part time basis and a further 14 per cent worked full time but for less than half the year. Only 40 per cent of women worked full time for the entire year. In comparison 58 per cent of males worked full time for the full year and only 11 per cent worked on a mostly part time basis. In comparison with data for 1970 there was relatively little change for both males and females in the distribution of work by work activity. Although, women, especially married women, entered the labour force in large numbers, many did so on a part time or temporary basis. Such part time and/or part year work was especially prevalent among women with young children. Among married women (spouses present) in the labour force only one of every four women who had children under 6 years, worked full time for the full year. In comparison, among married women without children, one in two worked full time, full year.

Earnings

In 1980 the average employment income for full year (49-52 weeks) mainly full time workers was \$18,902. After accounting for inflation, this was an increase in real terms of 18.6 per cent during the decade. The average employment income for males was \$21,441 in 1981 compared to \$13,677 for females. During the decade female earnings increased by 28 per cent in real terms compared to 20 per cent for males and therefore

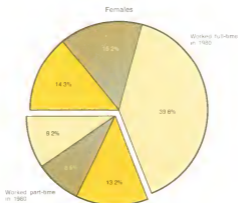
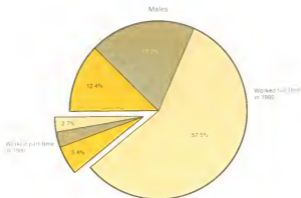
TABLE 9
A) PERCENTAGE DISTRIBUTION OF SELECTED MAJOR OCCUPATION GROUPS FOR FEMALE EXPERIENCED LABOUR FORCE AND
B) PERCENTAGE WHICH FEMALES FORM OF THE TOTAL POPULATION IN THE EXPERIENCED LABOUR FORCE FOR EACH OF THESE GROUPS, 1971 AND 1981, CANADA

	Percentage Distribution		Females as a Percentage of Occupation Group	
	1971	1981	1971	1981
Managerial	2.20	4.33	15.7	24.9
Professional, Technical, and Cultural	19.91	19.77	48.1	51.4
Teaching	7.99	6.22	60.4	59.5
Health Related	9.19	8.62	74.3	77.6
Other	2.73	4.93	17.3	29.2
Clerical	35.59	36.42	68.4	77.7
Sales	9.38	10.00	30.4	40.8
Service	16.96	16.01	46.2	52.3
Other	15.96	13.47	12.9	15.0
All Occupations	100.00	100.00	34.5	40.3

Note: Excludes occupations not stated.

Figure 3

Percentage Distribution of Persons 15 Years and Over Who Worked during 1980, by Work Activity and Sex, Canada, 1981



Legend



the ratio of female to male earnings increased slightly from 60 per cent to 64 per cent.

Again the average earnings for the entire population mask wide differences among individual occupations. TABLE 10 shows the average employment income and the 1970-1980 changes in average income in real terms for 15 selected occupations. Elementary and kindergarten teachers, nurses, real estate salesmen and mail carriers, had the highest increases in average income. On the other hand lawyers and notaries, and physicians and surgeons experienced a decline in average employment income during the decade. Further analyses of changes in age, education and other factors within these occupations may explain some of these overall trends.

Summary

The 1981 Census of Population provides a rich source of detailed data on Canada's labour force especially when combined with other social and cultural variables. The highlights discussed in this article point to a dynamic labour force that during the 1970s underwent major changes. Women and youth entered the

workforce in unprecedented numbers and the structure of the labour force continued to shift away from the primary and manufacturing industries to the service industries. These changes in turn caused shifts in the occupational structure of the labour force. During the 1970s there was increased specialization in the administrative, management, professional and scientific fields. The emergence of new technologies was also indicated by rapid growth in certain occupations such as systems analysts, programmers and computer operators. Although average employment increased by 18 per cent during the decade there were wide differences among occupations. Further analysis of the census data will indicate how these and other changes have impacted on specific population sub-groups and communities across Canada.

During the 1980s demographic trends are expected to add more than two million additional persons to the labour force. At the same time the pace of technological change is expected to increase. The 1981 census data will help in planning the labour market strategies and training requirements that are necessitated by the labour market changes that will occur.

TABLE 10
1980 AVERAGE EMPLOYMENT INCOME FOR FULL-YEAR/FULL-TIME WORKERS
IN SELECTED OCCUPATIONS SHOWING PERCENTAGE CHANGE IN
AVERAGE EMPLOYMENT INCOME IN REAL TERMS 1970-1980, CANADA

	Number with 1980 Employment Income	Average Employment Income 1980	Percentage Change in Real Terms 1970-1980
Elementary/Kindergarten Teachers	117,865	21,223	38.0
Nurses	71,810	18,098	33.3
Real Estate Salesmen	34,775	23,162	27.5
Mail Carriers	19,290	18,576	25.0
Policemen and Detectives (Government)	45,485	25,183	24.2
Truck Drivers	139,625	18,507	23.8
Secretaries and Stenographers	208,215	12,886	16.1
Machinists & Machine tool setting-up occupations	30,875	18,838	15.7
Motor Vehicle Mechanics and Repairmen	89,705	16,515	13.3
Chefs and Cooks	50,650	11,336	10.5
Social Workers	19,055	19,832	10.4
General Office Clerks	74,130	13,342	10.1
Systems Analysts and Computer Programmers	43,145	22,945	6.9
Physicians and Surgeons	22,065	56,539	-1.5
Lawyers and Notaries	24,785	39,039	-16.0
All Occupations	6,212,125	18,902	18.6

Footnote

¹The 1981 Census labour force data in this paper are based on 1971 concepts to allow for comparisons with data from the 1971 Census.

References

Kumar-Misir, L., Industrial Employment Trends in Canada, 1951-1971, Volume (Post:2) Profile Studies, 1971 Census of Canada, Cat. 99-716, April 1978
OECD, Labour Force Statistics 1958-1969 and 1969-1980.

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1981 Census of Population (Part 4): Housing Highlights

*G.E. Priest

Introduction

Information on the housing of Canadians was an important part of the data collected in the 1981 Census. Although changes in the actual stock of housing are gradual we did witness some dramatic changes in the occupancy of that stock. As was noted in an earlier article in this series (1) the average size of Canadian households, while declining steadily since the turn of the century underwent a further decline from 3.5 persons in 1971 to 2.9 in 1981. Meanwhile in the same period a slight increase in the average number of rooms per dwelling from 5.4 in 1971 to 5.7 in 1981 combined to lead to a significant decline in the average number of persons per room (from .64 in 1971 to .50 in 1981). Put another way, in 1981 the average Canadian dwelling had two rooms (excluding bathroom, halls and vestibules) for each person living in the dwelling.

We also know that the composition of these smaller households had changed significantly in the ten year period. For example, in 1971, 27.0% of Canadian families had no children in contrast to 31.8% in 1981. This increase was due largely to two groups: families in which the wife was aged 45 years and over whose children had matured and left home, and families in which the wife was aged less than 35 but had remained childless. Thus we have found an increasing number of Canadian dwellings occupied by young couples who have either delayed child-rearing or have chosen to remain childless and older couples at the "empty-nest" stage of the family life cycle.

A further example of changing household composition is the dramatic rise in the number of persons who are living alone. In 1981, over 20.0% of the private dwellings were occupied by lone persons, compared to 13.4% in 1971 and 9.3% in 1961. Also notable, but of less significance, has been the increase in the number of lone-parent families, precipitated to a large degree by the increasing number of divorces. Thus, these groups combine to influence the number of private dwellings

which contain less than three persons. In 1981 nearly 50.0% of Canadian dwellings contained only one or two persons.

In 1981 there were slightly more than 8,281,000 private dwellings in Canada (Chart 1). Of these, 68.0% were occupied by families living alone (Census Families² with no additional persons present, that is, no boarders, relatives or non-related persons living with them). A surprising 20.0% were occupied by individuals who were living alone. The balance (12.0%) were occupied by various combinations of families doubling up, families with additional related and unrelated persons and groups of non-family individuals. While some of these diverse groups merit study in their own right this article will concentrate on the larger more visible groups. Nevertheless, the 1981 Census data offer the opportunity to examine in some detail the living conditions of persons living alone and families living alone. The families can be further examined in terms of whether they are lone-parent families or husband-wife families. In the case of the latter, we can also determine if they are childless families, "empty-nest" families or families actively raising children.

The distribution of families living alone is shown in Chart 2. A surprising 32.3% of these families have no children living with them with just under a million being "empty-nest" families in which the children have matured and left home and 850,000 childless (that is, they have either not yet started raising children or they are beyond child-bearing years and have not had any children). In approximately 70.0% of the childless families the wife is aged under 35 years and still "at risk" in terms of potential fertility.

Family Living Conditions

While these families who live alone are predominantly home-owners (71%) rather than renters there is considerable variation between the types of families. Close to 80% of the husband-wife families with children owned their homes rather than rented (Chart 3) while only 51.5% of the childless families were owners. This tends to confirm the hypothesis made by Steele (3) that the most desirable forms of housing (that is relatively

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low density housing with ground level access) are not generally available on the rental market. Therefore, families with children who place a high priority on low density housing are forced to switch from renting to owning. We also find that over 76% of the empty-nest families are also owners which would suggest a certain inertia on the part of older home-owners. That is, they may tend to stay on in their family homes, consuming more housing than they really require, or they may simply find that maintaining their investment in their home is a good hedge against inflation. Lone-parent families generally have lower rates of home-ownership with 63.9% for males and 41.8% for females.

Of those families who are owners the condominium form of tenure is more common to childless couples (3.3%) and female lone-parents (6.2%) compared to only 2.2% of husband-wife families with children.

Steele's hypothesis is further supported by examining information on type of dwelling where we find that 72.4% of the families with children reside in single detached dwellings compared to only 2.5% in apartments of five or more storeys (Chart 4). This contrasts with the childless couples where only 48.3% live in single detached dwellings but 10.9% live in high rise apartments. Again, we see evidence of the tendency of empty-nest couples to remain in their single detached dwellings after their children have left. Notable, however, is the considerable difference between male and female lone-parents living in single detached dwellings (58.2% of the male families compared to 40.4% of the female.)

The issue of mobility of families is tied very much to two factors: age (as measured by the age of the wife or the lone-parent) and the presence of children. For example, we find that the average length of occupancy of childless couples in their current dwelling in 1981 was 3.6 years. Couples with children on the other hand had an average length of occupancy of 6.0 years. From the perspective of age, however, we find that for all families where the wife or lone-parent is aged less than 35 the average length of occupancy is 3.1 years. This rises to 6.3 for the age group 35-44, to 8.0 for the age group 45-54 and to 8.7 for the age group 55 and over. It follows that the group with the greatest stability is within those families in which the wife is aged 55 and over and there are still children at home. The average length of occupancy for this group was 9.3 years. Conversely, the most mobile group was the childless couple in which the wife was aged less than 35 (2.0 years).

In terms of the average number of persons per room, often used as crude indicator of crowding, we find that both male and female lone-parent families have an average of .5 persons per room. Husband-wife families with children stand at .6 while both empty-nest families and childless families stand at .4. All values, however, are well below the international standard which considers dwellings with more than 1.0 persons per room to be overcrowded.

While close to 77% of all dwellings occupied by a lone family were reported by respondents to be in good

condition, requiring only regular maintenance, there is considerable variation by type of family (as seen in Chart 5). Clearly empty-nest families are the best housed with over 80% being in dwellings of sound condition with only 14.4% requiring minor repairs and 5.1% requiring major repairs. Childless couples are the next best housed followed by husband-wife families with children. Both male and female lone-parent families have the poorest housing conditions with over 30% of their dwellings requiring some form of repair.

In the 1981 Census, home-owners, living in non-farm dwellings were asked to report the anticipated market value of their homes. Couples with children reported the lowest proportion of families living in dwellings valued at less than \$50,000 (33.1%) and the highest proportion in dwellings valued at \$100,000 or more (22.7%). Conversely, male lone-parent families reported the highest proportion in dwellings valued at less than 50,000 (45.4%) while female lone-parent families reported the lowest proportion in dwellings valued at \$100,000 or more (16.7%).

Family Shelter Expenditures

In 1981, these same home-owners were also asked to report their income and their expenditures on shelter. As may be seen in Table 1, close to 390,000 lone families who were maintaining owned homes paid 35% or more of their income on shelter. While experts may disagree on exactly what proportion of income spent on shelter puts a family at economic risk there is general agreement that expenditures in excess of 35% can be stressful. More important though are the differences between the various types of families. While empty-nest families had a relatively low average income (\$23,486) only 6.5% of those home-owning families spent 35% or more of their income on shelter. Childless families, on the other hand, had relatively high incomes (\$30,738) but 9.6% of them spent 35% or more of their income on shelter. Couples with children had the highest income, with 10% of them spending a high proportion of their income on shelter. The obviously disadvantaged group were the female lone-parent families who had the lowest income (\$19,014) with 26% of them spending more than 35% of their income on shelter. In fact, 16.5% of them spent over 50% of their income on housing costs.

Table 2 indicates significant differences paid in shelter costs not only between the various types of families but also between owners and renters. Here it is seen that home owning childless couples have the highest monthly payments while home owning empty-nest couples have the lowest monthly payments, just slightly more than one-half that paid by their childless neighbours. It is interesting to note that for any given type of family the owners always have higher payments than the renters except in the case of the empty-nest families.

A comparison of Tables 1 and 3, shows that owners always have a significantly higher income than renters but in no case is the difference more significant than in the case of female lone-parent families where the average income of those who are home-owners is

Table 1

Number and Percentage of Home-Owner Families Living Alone
Paying 35% or More of Their Income on Shelter
Showing Average Family Income, Canada, 1981

Type of Family	Number paying 35% or more of their income on shelter	Percentage paying 35% or more of their income on shelter	Average family income \$
Husband-Wife with Children	246,780	10.0	33,154
Husband-Wife Empty-Nest	45,845	6.5	23,486
Husband-Wife Childless	40,810	9.6	30,738
Male Lone-Parent	6,675	13.3	26,892
Female Lone-Parent	49,365	26.0	19,014
All Families	389,480	10.1	30,325

Table 2

Ranked Order Average Monthly Shelter
Costs For Home-Owner And Renter
Families Living Alone, Canada, 1981

Average Monthly Shelter Cost \$	Type of Tenure And Type Of Family
443	Owner Husband-Wife Childless
426	Owner Husband-Wife With Children
348	Owner Male Lone-Parent
331	Renter Husband-Wife With Children
325	Renter Male Lone-Parent
312	Renter Husband-Wife Childless
309	Owner Female Lone-Parent
306	Renter Husband-Wife Empty-Nest
287	Renter Female Lone-Parent
225	Owner Husband-Wife Empty-Nest

Note: Owner's shelter cost includes mortgage payment (principal and interest), taxes, utilities, fuel and municipal services.

Renter's shelter cost (gross rent) includes cash rent, utilities, fuel and municipal services.

It should be kept in mind that some part of owners' shelter costs may be considered investment.

Table 3

Number and Percentage of Renter Families Living Alone
 Paying 35% or More of Their Income on Shelter
 Showing Average Family Income, Canada, 1981

Type of Family	Number paying 35% or more on their income on shelter	Percentage paying 35% or more of their income on shelter	Average Family Income \$
Husband-Wife with Children	94,380	14.4	22,560
Husband-Wife Empty-Nest	36,950	16.1	19,604
Husband-Wife Childless	45,810	11.1	23,118
Male Lone-Parent	5,970	20.0	20,577
Female Lone-Parent	132,775	49.2	10,741
All Families	315,890	19.8	20,243

Table 4

Number and Percentage of Renter Families Living Alone
 Paying 35% or More of Their Income on Shelter
 Showing Average Family Income, Canada, 1971

Type of Family	Number paying 35% or more on their income on shelter	Percentage paying 35% or more of their income on shelter	Average Family Income \$
Husband-Wife with Children	84,445	9.9	8,956
Husband-Wife Empty-Nest	28,925	19.0	7,861
Husband-Wife Childless	30,220	9.3	9,635
Male Lone-Parent	3,940	18.4	7,736
Female Lone-Parent	69,790	47.6	4,815
All Families	217,335	14.5	8,570

\$19,014 while it is only slightly more than half that (\$10,741) for those who are renters. We also note that just under one half of these female lone-parent renting families spend 35% or more of their income on shelter and close to 33% of them spend 50% or more of their income on shelter.

In comparing the same two tables it is seen that for all types of families a higher proportion of renters than owners expend in excess of 35% of their income on shelter (e.g., 14.4% of renting husband-wife families spend a high proportion of their income on shelter compared to only 10.0% of the owning families).

Unfortunately, shelter expenditure data were not collected for home owners with the 1971 Census. We do, however, have data on the expenditures of renters. These data are shown in Table 4 where it is seen that some significant shifts have taken place in the ten year period. In 1971, 14.5% of all renter families were paying 35% or more of their income on shelter. By 1981 this had risen to 19.8%. The most significant increase was born by husband-wife families which rose from 9.9% to 14.4%. For only one group did the situation improve in 1981, that is, the empty-nest families where the proportion paying 35% or more of their income on shelter fell from 19.0% to 16.1%. At this point in time, however, it is not immediately clear as to why this reversal has taken place although it might be related to increased labour force participation and increased earnings by married women.

Persons Living Alone

While 71.5% of all families who lived alone in 1981 owned their dwellings only 31.9% of persons living alone were owners. Similarly, while 65.2% of all families lived in single detached dwellings only 30.5% of the persons living alone did so. Conversely, only 5.4% of all families lived in apartments of five or more storeys but 22.3% of the lone persons lived in the higher density accommodation.

Persons living alone, however, are not as mobile having an average length of occupancy of 5.0 years, only slightly less than all families at 5.9 years.

As might be expected persons living alone are relatively large consumers of space. While all families averaged 0.5 persons per room lone persons averaged 0.2. In other words, dwellings occupied by families have an average of two rooms for each occupant in the household. Dwellings occupied by lone individuals have a surprising average of five rooms per individual.

In terms of condition of dwelling, differences between families living alone and individuals living alone were not significant. There were, however, significant differences with respect to the value of owned dwellings. While 35.0% of all families lived in dwellings valued less than \$50,000, 51.1% of all lone individuals lived in such less expensive dwellings. Similarly, while 21.7% of the families in question lived in dwellings valued at \$100,000 or over only 14.4% of the individuals did so. These lone person home owner households paid an average of \$233 a month on shelter costs, which while much less

than most home owning families, was more than the home owning empty-nest families (\$225). It is further noted that 22.0% of them paid 35% or more of their average annual income of \$13,363 on shelter.

The average monthly gross rent of lone persons was \$252 while 32.3% paid 35% or more of their average annual income of \$11,994 on shelter. In fact, 19.0% paid 50% or more. It is interesting to note that, as in the case of empty-nest families, a relatively smaller proportion of persons living alone paid more than 35% of their income on rent in 1981 than did in 1971 (32.2% compared to 37.9% earlier). Again, there is no immediate explanation for this shift although it might be speculated that divorced and widowed women who make up a large part of the population living alone may have had relatively higher labour force participation and incomes in 1981 than in 1971.

Conclusion

In conclusion, this brief overview of occupancy patterns of Canada's housing stock demonstrates the different consumption patterns of households of various compositions. The 1981 Census marks the first time that housing data have been presented reflecting the diverse range of family types including not only lone-parent families but also the empty-nest, childless and active husband-wife families. The consumption patterns of these families differ significantly.

Unpublished tabulations which also include the age of the wife, lone-parent, or persons living alone provide an even sharper definition of relationships between household composition and housing consumption. Based upon the data presented above, three groups, in particular, warrant further, more in-depth, study. It is clear that many female lone-parent families are having difficulty in accommodating their families. Empty-nest families, on the other hand, appear to be doing well, but further analysis should be done separating the retired from those who are still active in the labour force. Similarly, the childless families need to be analyzed on the basis of those beyond child-bearing years compared to those who are potential future child-rearing families.

Footnotes

- 1 E.T. Pryor, "1981 Census of Population (Part 1): Demographic Highlights", *Canadian Statistical Review*, June, 1983.
- 2 Includes husbands and wives with or without never-married children and lone-parents with one or more never-married children.
- 3 Marion Steele, *The Demand for Housing in Canada*, Statistics Canada, Ottawa, 1979, p. 123.

References

- E.T. Pryor, "1981 Census of Population (Part 1): Demographic Highlights", *Canadian Statistical Review*, June, 1983.
- Marion Steele, *The Demand for Housing in Canada*, Statistics Canada, Ottawa, 1979

Chart 1

Occupied Private Dwellings Canada, 1981

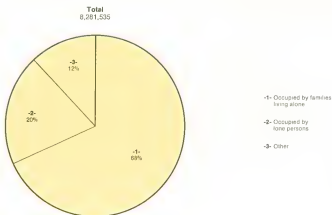
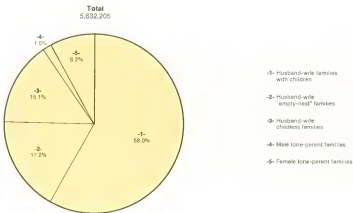


Chart 2

Families Living Alone by Type, Canada, 1981



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Occupied Private Dwellings Canada, 1981

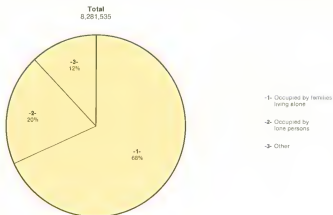


Chart 2

Families Living Alone by Type, Canada, 1981

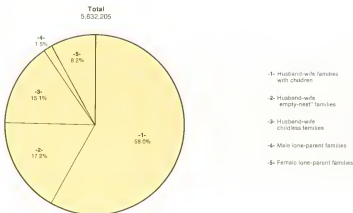


Chart 3

Families Living Alone by Type Showing Tenure Canada, 1981

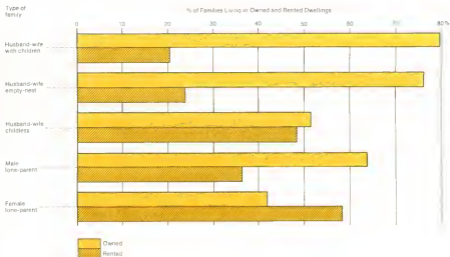


Chart 4

Families Living Alone by Type Showing Dwelling Type for Canada, 1981

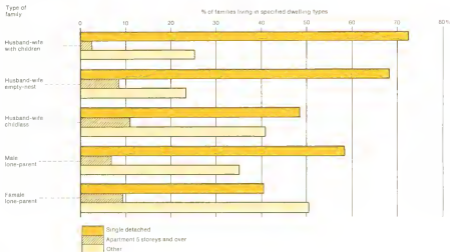
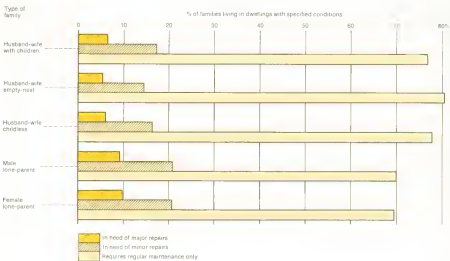


Chart 5

Families Living Alone by Type Showing Condition of Dwelling Canada, 1981



1981 Census of Population (Part 5): Education Highlights

*G.A. Mori

Introduction

The education data from the 1981 Census of Canada serve primarily to indicate the level of human resources in terms of years of schooling and qualifications attained and to provide an over-all measure of the amount of educational upgrading taking place in a given school year. The data were derived from a block or module of five questions directed to a 20% sample of all non-inmate residents of Canada (excluding foreign residents such as government representatives of other countries) and to Canadians living outside of Canada whose normal residence was still in Canada. The data were further restricted to persons 15 years of age and over at the time of the census (June 3, 1981).

Three of the education questions related to the levels of schooling attended or completed at elementary-secondary, university or other (post-secondary or vocational) non-university institutions. One further question asked for all of the degrees, certificates or diplomas obtained through successful completion of studies at these institutions. And finally a fifth question referred to current school attendance (either full-time or part-time) during the course of the September 1980 - June 1981 school terms.

In earlier releases of the 1981 census education data, considerable media emphasis was placed on the fact that Canadians were attaining higher levels of education than ever before and that more and more Canadians were entering the ranks of university graduates. To be sure, the data clearly indicated that the educational attainment of Canadians had reached historically high levels: university graduates more than doubled in number between 1971 and 1981 (720,000 to 1,500,000), the proportion of the population with no more than grade eight schooling declined from one-third in 1971 to one-fifth in 1981, and at the same time the proportion of the population with post-secondary schooling increased from less than one-fifth in 1971 to more than one-third in 1981. These increases in the

schooling levels of Canadians were generally interpreted to be marks of socio-economic progress and indeed there are sound reasons for accepting this assessment. At the same time that these record-high levels of schooling were being measured by the census, certain changes were occurring in the Canadian economy, particularly throughout the mid-1970s to the early 1980s. For example, unemployment rates for university graduates fluctuated from a low of 3.0% in 1975 to a 1970s high of 3.8% in 1978; in 1980 the rate had fallen to 3.1%, and in 1981 it rose marginally to 3.2%. However in 1982 it climbed to 4.9%.¹ This latter increase in particular raises questions concerning the ability of the Canadian labour market to absorb the increasingly higher number of university (and college) graduates.

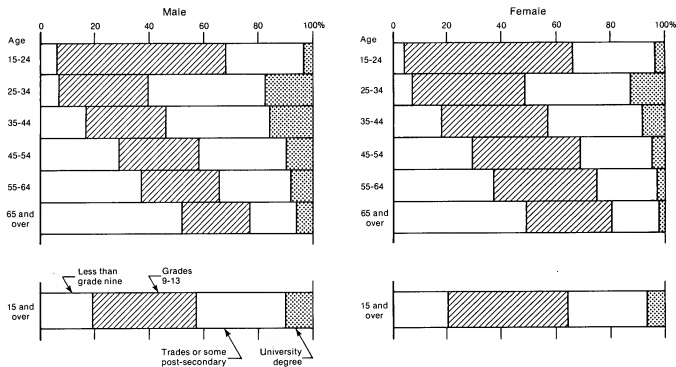
This review of selected highlights of the 1981 Census education data, briefly examines some of the social and economic correlates of educational attainment in the form of mobility, occupation, income, and labour force activity. As well some of the economic and socio-cultural correlates of current school attendance are highlighted.

Educational Attainment and Other Socio-Economic Characteristics

As mentioned in the Introduction, educational attainment levels of the Canadian population had reached historic highs in June 1981. At that time, other economic indicators such as those summarized in Statistics Canada's Composite Leading Indicator, were about to record an incipient decline in overall economic activity². In retrospect, it appears that June 1981 only very shortly preceded the economic contraction of 1981-1982, which by most accounts was the severest of Canada's post-war recessions. However, just about a year prior to the Census June date Canada had just entered the expansion phase of the business cycle following a brief but relatively deep contraction which occurred in the first two quarters of 1980. Therefore the timing of the Census measurement of education and the

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Chart — 1

Educational Attainment by Sex and Age⁽¹⁾, Canada, 1981

(1) Population 15 years and over, excluding inmates.

socio-economic data was such as to be sandwiched in between two relatively closely spaced recessions.

In terms of the educational attainment or stock data as such, short-term business cycle factors probably did not significantly affect educational output since it takes years and decades to build up a nation's educational manpower. However, when attainment is viewed in conjunction with more short-term dynamic factors such as mobility and labour force activity, the effects of these economic factors and the timing of the census in relation to them may become more apparent.

Overall Educational Attainment. Chart 1 depicts an overview of the educational attainment levels of the nation in terms of its distribution by sex and age groups. The apparent discontinuity in the chart for the 15-24 year age group is of course a function of the fact that a large segment of this group had not yet completed their schooling. For age groups beyond 24, however, the trend line is very clear. Each successive 10-year age cohort had higher levels of schooling than the one immediately older than it on the age scale. This means that succeeding generations have higher educational levels, but there are some indications that the rate of educational production may be approaching a maximum. This can be observed in a comparison of the distribution in Chart 1 for the 25-34 and the 35-44 age groups. Although the proportion of those with secondary (grade 9-13) schooling expanded in the younger age group, the proportion with trades or post-secondary, including university degrees, varied by

only a few percentage points. Still these figures indicate that over half of the 25-44 male population and almost half of the 25-44 female population had obtained educational training beyond the secondary level. It is quite possible that these proportions could be even further increased through the influence of a greater policy impetus placed upon adult education and retraining programs.

One of the current issues related to adult education is that of "functional illiteracy", which has been operationally defined by UNESCO as less than a grade nine schooling level. It has been contended that high levels of functional illiteracy in Canada's population contribute to a less than optimum labour market utilization of available manpower. The dimensions of the so-called illiteracy problem have been widely touted (using 1971 Census figures) as numbering close to 5 million persons, representing about a third of Canada's population 15 years or older. A glance at more recent 1981 Census education statistics places this issue in proper perspective. First, there was a total of 3.7 million persons in Canada who had less than grade nine schooling, and no further training³. This represented exactly one-fifth of the population 15 years or older. Over one-half of this sub-group (51 per cent) was 55 years of age or older. When the 15-44 year age group is considered, the number of persons who could be considered potential candidates for functional literacy training is a little over one million.

At the other end of the educational continuum, Chart 1

shows the age gradient for males and females in terms of the proportion of university graduates. This sector of the population, which probably receives the greatest attention³, actually accounted for only 8% of the population. In the 25-34 year age group where the concentration of university graduates is the highest, the proportion was 15%. Thus even for the younger age cohorts, it can be expected that no more than one in five persons will be graduating with a university degree. This represents a considerable advance compared to previous years, such as for persons now in the 55-64 year age group, where only one in twenty persons possessed a university degree. Although Canada's 15 and over population has increased by 54% since 1961, the number of university graduates has increased by 322%, which is thus about six times the rate of population growth. Although a large portion of this increase was due to demographic factors and the coming of age of the baby boom, it is difficult to ascertain whether this is an appropriate or an excessive rate of growth of highly educated manpower.

In any event, regardless of whether educational output is judged solely in terms of its labour market demand, or whether other criteria are applied, the issue of the numbers of current and future graduating university students, is likely to remain a matter of policy makers' and individual decision makers' concern well into the 1980s and perhaps the 1990s as well.

Trades and Other Non-University Education. One of the sectors of schooling that tends to be overlooked in the over-all educational continuum is the trades and other (post-secondary) non-university level. In total, there were 4.0 million persons with a trades or other non-university certificate (or both), and an additional 1.1 million persons who were either in the process of acquiring an other non-university certificate, or who had attended an other non-university institution without having obtained a certificate or diploma. Table 1 displays further data on this sector of schooling showing details of the type of certificates held and their relationship to other levels of schooling. It will be noted that a majority (about two-thirds) of the trades certificate holders and a large proportion (about one-third) of those with other non-university certificates did not have (or did not report) a secondary graduation

certificate. Given these distributions, it would probably be justified in calling the other non-university group "post-secondary" (as it was in the 1971 and 1976 censuses). However, it is clear that the trades certificate category for the most part could not be considered post-secondary schooling in the literal sense of that term. In any event, regardless of the terminology, the substantial number of persons with these educational qualifications testifies to their significance in the Canadian work force.

Over the past decade, the major growth of the non-university sector would appear to have been located in the newer post-secondary courses offered in the community colleges, CEGEPs, and institutes of technology. The number of students with post-secondary non-university schooling has more than doubled in that time period. However, a comparison of the trades and vocational sectors between 1971 and 1981 reveals that only a marginal increase occurred in their numbers⁵. This does not necessarily imply that the trades and vocational sectors are in a state of demise. Rather, it appears that the newer and advanced forms of technology in commercial enterprises require different skills and training than were being taught in schools or offered as apprenticeships as little as one decade ago. At the same time, the need for training in newer fields (such as computer science) has largely been filled through university, community college and private business schools, rather than through the apprenticeship route. This may have thus reduced the growth in the trades area in favour of the university degree and other non-university certificate groups.

Occupation and Schooling. When both the university and the non-university sectors are compared in terms of the occupational structure of Canada's experienced labour force, some very sharp contrasts emerge. This comparison is shown in Chart 2. The occupations selected for this chart include all of the major groups of the Standard Occupational Classification 1980, as well as a few typical occupations in the minor and unit groups. Clearly the university component is highly represented in teaching, social sciences, natural sciences, engineering and mathematics. Virtually all university teachers, physicians and surgeons, and the majority of those in law and jurisprudence were

TABLE 1. Trades and Other Non-University Certificate Holders by Highest Level of Schooling, Canada, 1981.

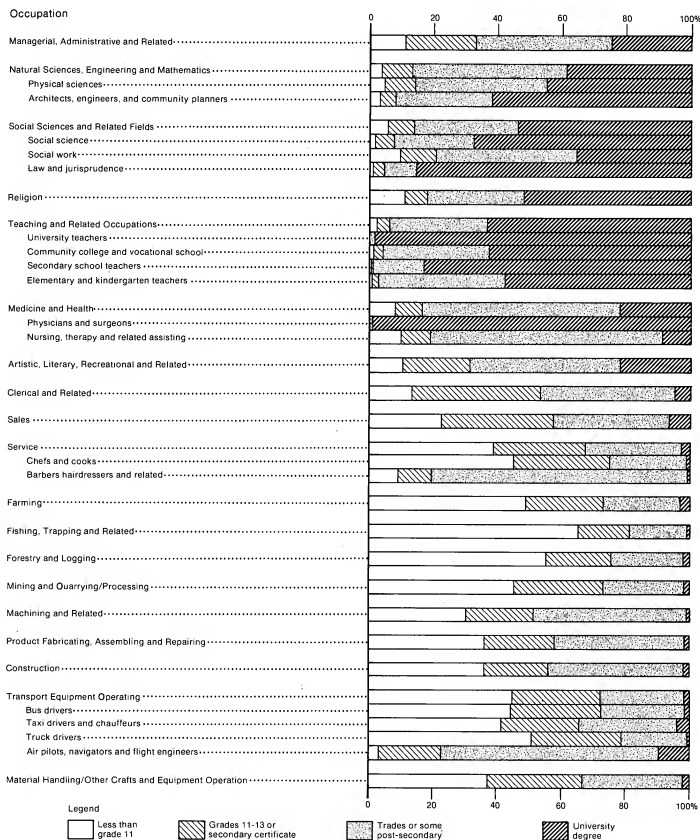
Highest Level of Schooling	Total Population 15 and over*	Trades and Other Non-University Certificate or Diploma						
		Total	Without Secondary Certificate			With Secondary Certificate		
			Trades Certificate	Other Non-University Certificate	Trades and Other Non-University Certificate	Trades Certificate	Other Non-University Certificate	Trades and Other Non-University Certificate
Total	18,609,285	4,019,180	1,326,875	643,260	69,150	711,250	1,106,825	161,825
Elementary-Secondary only	11,973,755	632,735	469,605	—	—	163,125	—	—
Less than Gr. 9	3,851,285	119,975	115,055	—	—	4,920	—	—
Grades 9-10	3,301,810	167,835	151,650	—	—	16,190	—	—
Grades 11-13	4,820,650	344,905	202,895	—	—	142,015	—	—
Other Non-University only	3,666,330	2,554,125	790,115	519,215	57,240	420,130	662,470	104,955
University	2,969,200	832,325	67,160	124,045	11,905	127,995	444,350	56,870
Without Degree	1,479,020	569,865	59,000	95,260	10,055	97,430	263,570	44,550
With Degree	1,490,180	262,455	8,160	28,785	1,850	30,565	180,780	12,315

* Excluding inmates

** No counts for these cells due to the inclusion of persons with various levels of Elementary - Secondary schooling at the Other Non-University or University levels.

Chart — 2

An Educational Profile of Selected Occupations, (1) Canada, 1981



(1) Based on the experience Labour Force

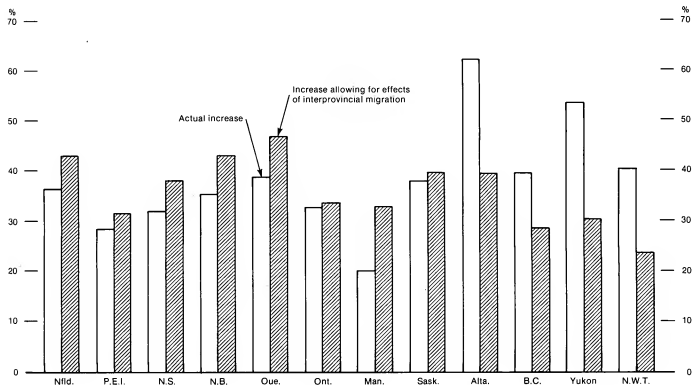
university graduates. About one-half of those in natural sciences, engineering and mathematics, and about one quarter of persons in managerial-administrative and artistic, literary, recreational and related occupations were likewise university graduates. The trades or some post-secondary component (which includes persons with university training but with no degree) were highly represented in occupations in medicine and health, and in other service occupations such as barbers and hairdressers. In addition, they accounted for a fairly high proportion of persons in managerial, administrative, natural science, engineering, teaching, machining, product fabricating, assembling and repairing, and construction occupations. One other impression that can be gathered from this chart is that for almost all major occupational groups (with the exception of those in fishing, trapping, forestry and logging) the majority of persons were at or near the level of secondary school graduation or higher.

Migration and Schooling. Another related aspect of education and other socio-economic variables concerns the effects of migration upon the educational resources of a given area or region of a country. Although the census is taken at one point in time, thus comprising the effect of a snapshot of a structure in motion, data from a question on mobility (defined as movement from place of residence five years earlier) allow for the analysis of dynamic factors upon the changing distribution of educational attainment levels in the population. Table 2 summarizes this mobility information in the form of the net effects of interprovincial migration upon the educational levels of the provinces and territories of Canada. It can be seen that in terms of population totals, Alberta and British Columbia were the only two

provinces that experienced a net increase of persons due to interprovincial migration between 1976 and 1981. Quebec, Ontario and Manitoba, on the other hand, experienced net declines. In terms of educational levels the effects were minimal for persons with less than grade nine schooling. The greatest re-distribution occurred for persons with secondary, trades or some post-secondary schooling. In the university sector, there was a net movement of over 36,000 persons.

The analysis of the educational attainment data from the mobility perspective is important in terms of considerations of overall or aggregate educational production of given regions of Canada. For example, if the university degree sector is isolated for analysis, the relative statistics can be compared graphically, as in Chart 3. The two columns indicate increases in the number of university graduates between 1976 and 1981, the first representing the actual 1976 - 1981 increment without considering interprovincial migration, and the second allowing for its effects. The second column is clearly a more accurate depiction of the educational production of each province or territory considered as producing units. Without the adjustment for migration it appears as if Alberta, Yukon and the Northwest Territories produced the largest proportion of graduates, relative to their base. However, if interprovincial migration is considered Quebec, New Brunswick and Newfoundland appear as the provinces which produced the largest increases in their respective university populations. This kind of approach serves to illustrate that when underlying demographic factors such as mobility are taken into consideration, the resulting picture may be quite different than what appears on the surface.

Chart — 3
Percentage Increase in University Degree Graduates, Showing Effects
of Interprovincial Migration, 1976-1981



Income and Schooling. Table 3 contains some income and schooling information that illustrates one of a number of ways of analyzing the association. The figures shown here are ratios of the average incomes of persons at the two ends of the educational scale, those with university degrees, and those with virtually no secondary schooling. These ratios are disaggregated by age groups for males and females and are shown for both 1970 and 1980. Although the ratio is somewhat of a numerical artifact, it can be interpreted as a general measure of the relationship of income to university graduation. The decrease in the ratio for both males and females between 1970 and 1980 would seem to indicate a decline in the relationship. However, the age group ratios tell a slightly different story. The ratio for males in the 20-24 and the 25-34 age groups increased between 1970 and 1980, while those for all the older age groups declined. The ratio for females show a decline for all age groups except the 20-24 year group where it stayed constant between 1970 and 1980. Data configurations of this kind, can be used to quantify the relationship between schooling and income for other sub-groups of the population as well as over periods of time.

Labour Force Activity and Schooling. One further aspect of the socio-economic associations of educational attainment is labour force activity. It is useful to depict the analysis of this relationship for

separate age groups and by sex, since a number of significant differences can be observed for particular sub-groups of the population. Table 4 shows one aspect of labour force activity — the number and percentage of the labour force that were unemployed — for the male and female adult population 25 years and older for various levels of educational attainment. In general there is a descending linear trend in unemployment as one proceeds from lower to higher levels of schooling. There are, however, noticeable disruptions in the linear trend and these occur at points where persons have proceeded to higher levels of schooling (at other non-university and university institutions) but who have failed to complete or to obtain a certificate or a degree. For these persons, it appears that in terms of employment and employability, their further incomplete schooling does not apparently secure them any advantage over persons who have lesser but completed levels of schooling. For example, persons who had taken some other non-university training had the same level of employment as persons who had attained a secondary graduation certificate and who had not proceeded to further schooling.

Female unemployment was higher than male unemployment on the whole, as well as for each level of schooling. At higher levels of learning (i.e. at the university degree level) females 25 and over had almost double the unemployment rate of males. In the medical,

Table 2. Net Gain or Loss in Educational Levels Due to Interprovincial Migration, 1976-1981.

Province or Territory	Net Gain (+) or Loss (-)				
	Total 15 and over *	Less than Grade 9	Grades 9-13	Trades or some Post-Secondary **	University Degree
Newfoundland	- 17,280	- 1,215	- 7,135	- 8,045	- 895
Prince Edward Island	- 590	+ 290	- 270	- 480	- 130
Nova Scotia	- 7,590	+ 355	- 2,300	- 3,440	- 2,205
New Brunswick	- 9,020	+ 385	- 3,510	- 4,130	- 1,760
Quebec	- 120,585	- 7,555	- 42,500	- 50,320	- 20,210
Ontario	- 67,545	- 4,315	- 31,895	- 26,740	- 4,595
Manitoba	- 35,845	- 2,690	- 13,175	- 13,795	- 6,195
Saskatchewan	- 7,600	- 640	- 4,180	- 2,255	- 530
Alberta	+ 172,105	+ 8,865	+ 72,555	+ 68,225	+ 22,435
British Columbia	+ 95,330	+ 6,850	+ 32,980	+ 41,910	+ 13,590
Yukon	- 180	- 105	- 105	- 190	+ 230
Northwest Territories	- 1,205	- 220	- 465	- 770	+ 255

* Excluding inmates.

** "Some Post-secondary" includes persons with both complete and incomplete other non-university education as well as those with incomplete university or with a university certificate below the bachelor level.

Table 3. Ratio of Average Income of Person with University Degrees to Persons with Less than Grade Nine Schooling, Males and Females by Age Groups, Canada, 1970 and 1980 Income.

Age Group	Males		Females	
	1970	1980	1970	1980
Total 15 and over	2.42	2.30	2.71	2.56
20-24	0.90	1.00	1.52	1.53
25-34	1.70	1.74	2.52	2.43
35-44	2.55	2.18	2.73	2.61
45-54	3.04	2.59	3.19	3.07
55-64	3.41	2.93	3.73	3.50
65 and over	3.83	3.29	3.19	2.88

Source: 1971 Census of Canada, 94-763 Table 9.

1981 Census of Canada, User Summary Tape, Table SPY81B21.

* Average Income of Persons with University Degrees ÷ Average Income of Persons with Less than Grade Nine.

master's and earned doctorate categories the female unemployment rate was more than double the male. These higher rates for females are probably due to their being recent re-entrants to the labour force.

In total there were almost 500,000 persons 25 years and over who were unemployed in the week prior to June 3, 1981. Almost half (49%) of these persons had less than grade nine schooling or some secondary

schooling. There were a total of 35,000 university graduates 25 years and over in the ranks of the unemployed, and an additional 137,000 unemployed persons who had other non-university, or some university training.

Labour force activity and educational attainment data are presented in slightly different detail for the 20-24 year age group in Table 5. More detail is provided for

TABLE 4. Population 25 Years of Age and Over*, By Highest Level of Schooling, Showing Number and Percentage of the Labour Force Unemployed, by Sex, Canada, 1981.

Highest Level of Schooling	Unemployed					
	Total		Male		Female	
	N	% ³	N	% ³	N	% ³
CANADA						
Total 25 Years and over [*]	493,790	5.5	254,180	4.6	239,610	6.9
Less than Grade 9	120,085	1.1	74,055	7.4	46,030	9.7
Gr. 9 - 13, No Sec. Cert.	119,640	6.3	58,420	5.2	61,215	7.8
Gr. 9 - 13, With Sec. Cert.	60,820	5.6	23,605	4.3	37,215	7.1
Trades Certificate, No Other	21,325	5.2	15,895	4.7	5,430	7.7
Other Non-Univ., No Cert.	29,085	5.7	13,450	4.9	15,640	6.7
Other Non-U. Trades Cert.	39,965	4.9	23,985	4.2	15,980	6.6
Other Non-U. Other Cert.	32,400	4.0	10,435	2.7	21,975	5.1
University, No Cert/Deg.	14,925	4.8	8,230	4.0	6,695	6.3
University, With Cert. ¹	20,595	3.9	9,110	3.2	11,485	4.7
University, Bachelor ²	27,600	3.2	13,025	2.4	14,575	4.6
University, Medical Deg.	760	1.3	455	0.9	310	3.2
University, Master's Deg.	5,810	3.0	3,025	2.2	2,790	5.2
University, Earned Doctorate	780	1.5	495	1.1	280	3.9

* Excluding inmates

¹ Includes University Certificate Below Bachelor, Other Non-University Certificate and Trades Certificate.

² Includes University Certificate Above Bachelor Level.

³ % Unemployed represents proportion of total labour force that is unemployed in Highest Level of Schooling category.

TABLE 5. Population 20-24 Years of Age by Sex and Highest Level of Schooling, Showing Labour Force Activity, Canada, 1981.

Sex and Highest Level of Schooling	Total *	In the Labour Force				Not in the Labour Force ³
		Total Labour Force	Employed	Unemployed		
				Number	% ²	
CANADA						
TOTAL 20-24 YEARS	2,334,420	1,962,345	1,737,140	225,200	11.5	372,080
Less than Grade 9	106,840	68,240	54,025	14,215	20.8	38,400
Gr. 9-13, No Sec. Certificate	615,715	485,990	419,970	66,020	13.6	129,725
Gr. 9-13, With Sec. Certificate	441,425	385,435	350,920	34,510	9.0	55,995
Trades Certificate, No Other Sch.	78,185	70,480	62,320	8,160	11.6	7,700
Other Non-Univ., No Certificate	227,315	192,655	170,445	22,210	11.5	34,655
Other Non-Univ., Trades Cert.	157,865	142,335	128,090	14,240	10.0	15,535
Other Non-Univ., Other Cert.	233,985	211,735	193,310	18,420	8.7	22,255
University, No Cert. or Degree	204,845	174,945	156,625	18,320	10.5	29,895
University, With Cert. 1	117,160	99,450	86,100	13,350	13.4	17,710
University, With Degree	151,295	131,085	115,335	15,750	12.0	20,205
MALES 20-24 YEARS	1,166,870	1,060,510	939,030	121,475	11.5	106,365
Less than Grade 9	59,635	47,425	37,515	9,910	20.9	12,210
Gr. 9-13, No Sec. Certificate	329,235	302,760	264,085	38,675	12.8	26,480
Gr. 9-13, With Sec. Certificate	194,445	184,120	168,105	16,015	8.7	10,325
Trades Certificate, No Other Sch.	46,480	44,105	39,190	4,910	11.1	2,370
Other Non-Univ., No Certificate	122,025	109,355	97,065	12,295	11.2	12,665
Other Non-Univ., Trades Cert.	88,700	83,725	75,640	8,085	9.7	4,970
Other Non-Univ., Other Cert.	86,825	80,745	73,230	7,515	9.3	6,080
University, No Cert. or Degree	111,785	98,085	88,285	9,805	10.0	13,700
University, With Cert. 1	56,710	48,445	41,815	6,635	13.7	8,260
University, With Degree	71,035	61,735	54,100	7,635	12.4	9,300
FEMALE 20-24 YEARS	1,167,550	901,840	798,110	103,730	11.5	265,715
Less than Grade 9	47,005	20,810	16,505	4,310	20.7	26,190
Gr. 9-13, No Sec. Certificate	286,480	183,230	155,890	28,430	15.0	103,250
Gr. 9-13, With Sec. Certificate	246,980	201,315	182,815	18,495	9.2	45,670
Trades Certificate, No Other Sch.	31,705	26,380	23,130	3,245	12.3	5,325
Other Non-Univ., No Certificate	105,290	83,300	73,385	9,915	11.9	21,990
Other Non-Univ., Trades Cert.	69,165	58,605	52,445	6,160	10.5	10,560
Other Non-Univ., Other Cert.	147,160	130,985	120,085	10,905	8.3	16,170
University, No Cert. or Degree	93,055	76,855	68,335	8,520	11.1	16,200
University, With Cert. 1	60,445	51,005	44,285	6,720	13.2	9,450
University, With Degree	80,260	69,350	61,235	8,115	11.7	10,910

* Excluding inmates.

¹ With Certificate refers to University, Other Non-University and Trades Certificate.

² Percentage of Total Labour Force (which is the sum of the Employed and the Unemployed) that is unemployed.

³ Most persons in the "not in the Labour Force" category would be students, homemakers, or seasonal workers in an "off" season who were not looking for work and persons who could not work because of a long-term illness or disability.

labour force activity, in particular the number of persons not in the labour force in this age group, and slightly less detail is given for university degrees, (since many persons at post-graduate levels complete their higher degrees after age 24). The unemployment rate for this age group in June 1981 was more than twice the rate of those 25 years or over (11.5 and 5.5 respectively). It should be noted that the unemployment rate for the full-time student portion of this age group was 17.6% while the rate for those not attending at all was 10.7% and for those attending part-time it was 7.0%. Many of the full-time attenders would only recently have joined the labour force, in some cases for the summer only. Also compared to the 25 years and over group, of the 225,000 unemployed persons in the 20-24 year group, only 36% had less than grade nine schooling or some secondary, compared to 49% in the older age group. This means that, in general, unemployed persons in the younger 20-24 year cohort had higher levels of schooling than their counterparts in the older adult population. The differences are mainly noticeable at the intermediate levels of schooling. For example, 15% of the unemployed in the 20-24 age group had secondary certificates, in contrast to 12% in the 25 and over group; and there were 8% unemployed in the 20-24 age group with some university and with no certificates or degrees (many of whom were probably students) in contrast to only 3% in the 25 and over group.

On the whole, male-female differences in unemployment rates across the various schooling levels were quite minimal for the younger age cohort. The biggest difference, however, was observed in the number of persons not in the labour force. For males 20-24 years old, there were 106,000 persons (out of 1,167,000) or 9% who were not in the labour force. But for females 20-24 years old, there were 265,000 persons (out of 1,168,000) or 23% who were not in the labour force. This difference is accountable by the fact that many of the females in this group could be homemakers and/or mothers. At any rate, there appears to be a fairly high proportion of persons with relatively high levels of schooling for 20-24 year old males and females who

were not in the labour force. Subsequent tables indicate that about one-half of the males and one in five females in this category were full-time students in 1980-81.

School Attendance and Associated Characteristics

This leads to a brief consideration of some of the census highlights relating to school attendance and the role it plays in economic and social concerns. The majority of school attenders in the 15-24 age group are beyond the age of compulsory school attendance which varies between 15 and 16 across Canada's provinces and territories. Therefore for persons 18 years and over, school attendance is largely a matter of choice in the context of ability, means or accessibility, location, and a range of social or cultural factors. Only the broad outlines of these inter-relationships will be highlighted here.

First, Table 6 depicts regional variations in school attendance rates measured in the number of persons attending or not attending for every 1,000 persons in the age group. (This rate can be interpreted as a percentage with the decimal point removed before the last digit.) The table indicates that there was a considerable variation across age groups, as well as between the provinces and the territories of Canada. The largest differences were seen in the two age groups that were beyond the compulsory attending age: 18-21 and 22-24. In the former group the full-time school attendance rates varied from a low of 197 (per 1,000 population) in the Northwest Territories⁶ to a high of 430 in Ontario. The latter is the only province that currently maintains a thirteen grade elementary-secondary school structure, and this accounts in large part for its high rate. Prince Edward Island followed Ontario very closely with a rate of 420, while the Yukon and Newfoundland exceeded the Northwest Territories at the lower end at 253 and 274 respectively. In the 22-24 age group where a large proportion of the nation's post-graduate student population is represented, Ontario again led with a rate

TABLE 6. School Attendance Rates (per 1000 population) by Age Groups, Canada, Provinces and Territories, 1981.

School Attendance By Age Groups	Can.	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.
—rate per 1,000 population—													
Attending Full-time													
15 and over	117	118	128	122	117	118	122	107	109	111	103	107	104
15-17	785	724	800	800	789	791	806	768	766	742	774	722	545
18-21	369	274	420	397	357	372	430	321	313	279	312	253	197
22-24	132	76	101	109	97	131	157	111	98	117	123	102*	78*
25-49	24	17	19	21	16	22	24	23	21	28	28	24*	25
50 and over	4	3	2*	2	3	6	3	2	2	2	3	12*	7*
Attending Part-time													
15 and over	58	30	34	33	29	57	63	47	45	60	70	46	26
15-17	12	15	15	9	8	10	11	11	13	16	19	27*	21*
18-21	62	44	43	36	34	54	64	60	51	72	94	45*	32*
22-24	99	55	73	60	49	96	111	89	78	97	118	60*	41*
25-49	84	41	50	50	44	85	94	71	70	79	98	58	29
50 and over	17	4	8*	9	7	15	21	12	15	17	22	11*	8*
Not attending													
15 and over	825	852	838	845	853	825	814	846	846	828	827	847	870
15-17	203	260	185	191	223	199	183	221	222	243	207	251	434
18-21	569	682	536	567	609	574	506	619	636	649	595	699	774
22-24	769	869	828	832	854	774	732	800	824	786	759	839	882
25-49	892	941	931	930	939	893	883	906	909	893	874	918	945
50 and over	979	993	990	989	990	979	976	986	983	981	975	977	987

* Rates based on less than 250 persons in the numerator.

of 157, while Newfoundland had the lowest rate at 76. In the older 25-49 year age cohort, the provinces of Alberta and British Columbia assumed the leading positions with a rate of 28, while the lowest rate was observed from New Brunswick at 16.

Part-time school attendance rates also displayed a wide degree of regional variation. In all of the age groups 18 and over, British Columbia had the highest rates of part-time school attendance, (94 for persons 18-21, 118 for persons 22-24, 98 for persons 25-49 and 22 for persons 50 and over). Ontario followed British Columbia with an overall rate of 63. The Northwest Territories had the lowest over-all rate at 26, followed by New Brunswick at 29.

The rates for the 25-49 year and 50 and over sub-populations are of particular interest in the context of adult continuing education. Recently there has been considerable attention drawn to this sector of schooling, and census data can be utilized to shed some light on the dimensions of this activity. For example, other available data indicate that 806,000 persons 25 and over were attending school part-time in 1980-81. Of this total 426,000 (or 53%) were women. Between 1971 and 1981 part-time school attendance for this age group increased by 93%. For women, the increase was 146%. The majority (83%) of adult male continuing education students worked 40 or more weeks in 1980 and were employed in the week prior to June 3, 1981. The corresponding percentage for adult females was 58%. There were 66,000 adult females who did not work in 1980 and who were not in the labour force, taking part-time day or evening courses. Presumably for a large number of these persons, school attendance may have been seen as a means for gaining entry or re-entry into the job market.

The wide variations in the rates of full-time and part-time school attendance amongst the provinces and territories are indicative not only of differing educational policies and the differing sizes and extent of the concentration of population, but also of the differing social and cultural attitudes (toward education) prevailing among the sub-populations of these regions. An indication of how school attendance varies across three socio-cultural dimensions — place of birth, ethnic origin and religion — is shown in Table 7. This data can be disaggregated by province, but are shown only at the Canada level here. In general, the national patterns hold at the province or territorial levels. The figures shown on the top line of Table 7, the Canada Total, can be viewed as the average or the norm for a given age group. First in terms of place of birth it can be expected that the rates for persons born in Canada would be close to the national average since about 84% of Canada's population is native born. However, it turns out that the rates for persons born in Canada are slightly below the national average. The highest rates were generally observed for persons born in Africa followed closely by persons born in Asia. In terms of ethnic origin, the highest full-time rates were observed for persons of Jewish origin, and the highest part-time rates for persons of Chinese origin. Finally, in terms of religion, Jewish religion exhibited the highest full-time rates, while the highest part-time rates were observed for Buddhist with a rate of 155 in the 20-24 age group and Hindu with a rate of 115 in the 25 and over age group.

The relationship between school attendance and labour force activity has been briefly alluded to for the 25 and over population. It appears that the majority of adult (part-time) school attenders were employed and thus in the labour force. This situation is quite different for

TABLE 7. Full-time and Part-time School Attendance Rates (per 1000 population) by Age Groups for Selected Social And Cultural Characteristics, 1981.

Selected Social and Cultural Characteristics	Full-time Attendance		Part-time Attendance	
	15-19	20-24	20-24	25 and over
Canada Total	659	186	89	58
Place of Birth				
Canada	655	180	86	57
U.S.A.	716	258	88	58
United Kingdom	701	207	114	59
Other Europe	641	174	93	40
Africa	799	382	161	117
Asia	716	304	138	99
Ethnic Origin				
British	664	183	89	58
French	647	162	76	54
German	624	165	96	49
Italian	704	243	114	37
Ukrainian	648	169	99	49
Native Peoples	487	105	50	37
Dutch	651	179	97	58
Chinese	772	414	158	108
Jewish	823	483	130	73
Scandinavian	642	155	97	53
Religion				
Roman Catholic	656	177	84	55
Ukrainian Catholic	687	219	85	41
Mainline Protestant	662	181	89	54
Eastern Orthodox	697	239	96	40
Jewish	829	472	131	74
Islam	708	265	125	104
Hindu	728	261	136	115
Sikh	688	153	89	51
Buddhist	704	319	155	101
No Religious Preference	619	205	109	97

those in the younger age groups. Table 8 shows the labour force activity status for the 15-19 year and 20-24 year groups disaggregated by sex and school attendance.

In examining this data the timing of the Census and the institutional timing of the school year should be kept in mind. Most secondary and elementary students would still be in school at the time of the Census since most of these schools normally close for the summer only after the end of May. On the other hand, for many university and community college students, classes would have finished in early May or even in some cases late April. Labour Force Survey (LFS) data on the proportion of these age groups attending school in the LFS reference week (containing the 15th of the month) for April to June of 1981 give the following picture: for 20-24 year olds the percentage decreased from 14.9% in April to 6.0% in May and 3.1% in June. For 15-19 year olds the percentage declined from 68.2% in April to 63.0% in May and to 43.3% in June. Thus a much larger percentage of the 15-19 year group was still in school at the time of the Census than was the case for the 20-24 year group, almost all of whom were free to join the work force, even if only as summer students. This is particularly relevant to data on unemployment, since respondents who said they had looked for work or had a new job to start but indicated they were not available because they were "going to school" in the week prior to the Census, were excluded from the unemployment estimate.

The census figures in Table 8 show that in the 15-19 age group, there were a total of 2.3 million persons. Of this total, 1.1 million persons or 47% were in the labour

force, one half of whom were not attending school. Of the remaining 1.2 million persons not in the labour force, only 18% were not attending school. In the same age group there were 167,000 persons who were unemployed, comprising 15.6% of the labour force in the age group. In this sub-group, from which most full-time students still in school at Census time would be excluded, 56% were not attending school at all. In short, because many younger students in the 15-19 age group were still in school at Census time, these students made up a large proportion of those not in the labour force. In addition, the presence of employed older students who may have finished school in May accounts for a larger percentage of full-time students compared to those who were unemployed.

In the 20-24 age group, these parameters change considerably because of the lower incidence of school attendance. For the same number of persons (2.3 million), there were 2.0 million persons (or 84%) who were in the labour force, of which 73% were not attending school. Also by contrast, only 370,000 20-24 year olds were not in the labour force of which 68% were not attending school.

For persons who were not attending school at all or attending part-time the Census timing has less effect on the data. For 15-19 year olds the unemployment rate for those not attending was very high at 18.6% and somewhat less severe for the part-time attenders at 14.1%. For 20-24 year olds, the non-student unemployment rate had dropped to 10.7% and that of part-time students to 7.0%. As noted earlier for full-time students, aged 15-19, a considerably larger proportion are still in school and are not available for the labour

TABLE 8. Population 15-24 Years of Age by Sex, Age Groups and School Attendance, Showing Labour Force Activity, Canada, 1981.

Sex, Age Groups and School Attendance	Total *	In the Labour Force				Not in the Labour Force ²
		Total Labour Force	Employed	Unemployed		
				Number	% ¹	
CANADA						
TOTAL						
15-19 Years	2,303,590	1,073,950	906,710	167,245	15.6	1,229,630
Not Attending School	723,235	500,680	407,660	93,020	18.6	222,560
Attending Full-time	1,517,725	524,185	456,890	67,290	12.8	993,545
Attending Part-time	62,620	49,085	42,160	6,930	14.1	13,530
20-24 Years	2,334,420	1,962,345	1,737,140	225,200	11.5	372,080
Not Attending School	1,692,865	1,440,880	1,286,815	154,065	10.7	251,980
Attending Full-time	433,430	327,275	269,775	57,505	17.6	106,145
Attending Part-time	208,135	194,185	180,550	13,635	7.0	13,945
MALE						
15-19 Years	1,175,100	571,575	485,185	86,385	15.1	603,535
Not Attending School	374,065	275,855	224,520	51,335	18.6	98,205
Attending Full-time	770,370	271,110	239,550	31,560	11.6	499,255
Attending Part-time	30,670	24,600	21,110	3,490	14.2	6,070
20-24 Years	1,166,870	1,060,510	939,030	121,475	11.5	106,365
Not Attending School	819,430	772,470	688,875	83,595	10.8	46,960
Attending Full-time	242,795	188,290	157,855	30,440	16.2	54,505
Attending Part-time	104,645	99,750	92,305	7,440	7.5	4,900
FEMALE						
15-19 Years	1,128,480	502,380	421,525	80,855	16.1	626,100
Not Attending School	349,170	224,820	183,140	41,680	18.5	124,350
Attending Full-time	747,355	253,065	217,335	35,730	14.1	494,285
Attending Part-time	31,950	24,485	21,045	3,440	14.0	7,460
20-24 Years	1,167,550	991,840	798,110	193,730	11.5	265,715
Not Attending School	873,435	668,415	597,940	70,470	10.5	205,025
Attending Full-time	190,630	138,985	111,920	27,065	19.5	51,645
Attending Part-time	103,485	94,440	88,250	6,195	6.6	9,045

* Excluding inmates

¹ Percentage of Total Labour Force (which is the sum of the Employed and the Unemployed) that is unemployed.

² Most persons in the 'not in the Labour Force' category would be students, homemakers, or seasonal workers in an "off" season who were not looking for work and persons who could not work because of a long-term illness or disability.

force in June. Thus their unemployment rate is below that of the 20-24 year age group. By July 1981, LFS data indicated a reversal of this situation as schooling ended for the summer for the younger age group.

One final aspect of Table 8 which should be noted are the number of students who were neither in the labour force, nor attending school. In the 15-19 year group there were 223,000 (of which 44% were male) and in the 20-24 year group there were 252,000 (of which 19% were male). These persons, particularly the males, constitute potential labour force entrants (or re-entrants) who could increase unemployment if they were to enter the labour force during times of weak labour market demand.

Conclusion

The results reviewed in this survey of highlights of the 1981 census data on education have provided bench-mark statistics on some basic socio-economic relationships that were evident in Canada during the Census reference period. These bench-marks generally showed that the association between schooling and factors such as mobility, income, labour force activity and occupation were positively related; that is the higher the schooling level, the higher the level of economic activity. These associations, however, were examined only in a bivariate context, and furthermore they were also seen to be not always in a linear form. The secondary objective of this overview of education and its economic correlates has been to encourage further questions, inquiries and utilization of the data products which are now being disseminated as part of the 1981 Census of Canada output program (see below).

Further utilization of this data can be extended in two general directions: more intensive empirical examination of the multivariate and temporal relationships between the variables, and secondly more emphasis on the possibility of such analysis to generate explanations and predictions related to ongoing socio-economic processes in the context of wider and more long-range historical changes in the economy and society.

Footnotes

¹ *The Labour Force*, Monthly (71-001) Statistics Canada.

² *Current Economic Analysis*, Monthly, June-September (13-004) Statistics Canada, Volume No. 6, 7, 8, 9, 1981.

³ There were an additional 370,000 persons with less than grade nine schooling, but who had obtained some further trades or post-secondary education.

⁴ Two studies previously published in the *Canadian Statistical Review* which concentrate on university graduates are: Max von Zur-Meulhen, "Profile of Ph.D's in Canada", *Canadian Statistical Review* July 1976; and W.G. Picot "University Graduates and Jobs: Changes during the 1970s — Summary of Findings", *Canadian Statistical Review*, April 1983.

⁵ See *Canada Update from the 1981 Census*, March 1, 1983, Page 19-20, Population 15 Years and Over, Showing 1971 Vocational Training and 1981 Trades Certificate or Diploma. It should be noted that there are some non-comparable elements of 1971 vocational training and 1981 trades certificate data. For example, some courses (e.g. nursing) which may have been considered vocational training in 1971 may in 1981 be more associated with other non-university rather than trades certificate.

⁶ The low rates in the Yukon and the Northwest Territories are due to the absence of post-secondary facilities. Also the fact that some students from these areas living away from home may be enumerated in the province where they were attending school is an added factor accounting for the lower attendance rates in the territories.

⁷ For example, see *The Globe and Mail* August 18, 1983, "Continuing Education: Billions spent, yet programs fail adults in need"; "Failed predictions, while Ottawa pushes high-tech skills, the new jobs are elsewhere" and "Impetus grows for paid educational leave scheme".

Obtaining Information from the 1981 Census

1981 Census data are available in a wide variety of publications. The *National Series* gives data for Canada, the provinces and territories. The *Provincial Series* provide county, municipal and metropolitan statistics. The *Profile Series* gives compact data for specific geographic areas, e.g., Federal Electoral Districts, Census Metropolitan Areas, Census Tracts, and others.

In addition to publications, both standard and special tabulations are offered on computer printouts, microfiche and microfilm and magnetic tapes. Maps and other geographic reference materials are available for many types of data. Direct access to information is also possible through CANSIM, Statistics Canada's machine-readable data base and retrieval system.

For a free copy of *Products and Services of the 1981 Census of Canada* or general information contact our closest regional reference centre.

1981 Census of Populations (Part 6): Changes in Work and Education Patterns and Family Income, 1970-1980

* A. Rashid

Introduction

The 1981 and 1971 censuses collected information on the incomes and other characteristics of Canadian families from a sample of all households. These data provide a rich source of socio-economic analysis. A study of income changes between 1970 and 1980 indicated that, not only has the average family income changed over the decade, the Canadian family has also undergone substantial changes during the period.¹ This article looks at two of these changes — work patterns and education patterns of husbands and wives — in relation to family incomes.

To explore this relationship, the following methodology was adopted:

- (a) The investigation is restricted to those husband-wife families who are mainly labour force participants. First, lone parent families, being a group with unique characteristics, are excluded. Most of them are headed by female lone parents with young children and the work effort is limited to the parent. Secondly, elderly families are excluded. Since the purpose is to look at the work of both spouses, it was decided to include only those husband-wife families in which both spouses were potential workers. For this exclusion, the traditional age cut-off of 65 years and over for the husband was adopted.
- (b) Husbands and wives were defined as working if they reported non-zero income from employment, i.e., from wages and salaries, non-farm self employment or farm self-employment. Moreover, if they worked 49-52 weeks, mostly full time, in the reference year, they were treated as full year full time (FYFT) workers; if they worked 49-52 weeks, mostly part time, or less than 49 weeks, they were considered as part time (PYPT) workers.
- (c) Husbands and wives were divided into three broad education groups: those with a university degree,

those with secondary school certificate², and those with less than secondary school certificate.

- (d) To make comparisons in real terms, income data for 1970 were inflated in terms of 1980 purchasing power of the dollar. Thus, all income figures are stated in constant (1980) dollars.

Changes in work patterns and income are discussed first. This is followed by a discussion of changes in education and income. Finally, estimates of the impact of work-education changes on family income are presented.³

Work Patterns and Family Income

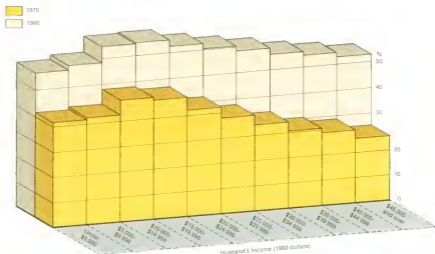
The family work profile has changed considerably between 1970 and 1980. About 97 per cent of husbands worked in 1970. A decade later, this proportion had dropped to about 94 per cent. This change is most likely brought about by the trend towards early retirement as the 3 percentage points decrease has occurred entirely in the proportion of full year full time working husbands. When this change was broken by age, it was found that the largest drop occurred in the case of husbands aged 60 to 64 years. Higher unemployment in 1980 may also have been a factor in the overall drop of working husbands between 1970 and 1980.⁴

The most significant change which has occurred over the decade is the increased participation of wives in the labour force. In 1970, over 56 per cent of wives did not work. A decade later, the proportion of non-working wives dropped to about 39 per cent. The 17 percentage point increase in working wives was distributed more or less equally between FYFT and PYPT work. Compared to 16 per cent and 27 per cent for FYFT and PYPT, respectively, in 1970, there were 24 per cent and 37 per cent such wives in 1980.

Historically, there has been a negative relationship between husband's income and wife's labour force participation. As Chart 1 shows, this relationship existed

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Figure 1
Percentage of Wives Who Worked by Husband's Income, 1970 and 1980



both in 1970 and 1980, but its strength has been dissipated considerably over the decade. The slope of the 1980 curve is much less pronounced than was the case in 1970. The proportions of working wives ranged from 25 per cent to 49 per cent by husband's income in 1970. In 1980, the lowest and highest proportions were 52 per cent and 65 per cent. Thus, the range narrowed from 24 to 13 points over the decade.

Joint distributions of husband-wife work status in 1970 and 1980 are presented in Table 1. The number of all families⁵ increased by 20 per cent over the decade. The variation of change in the number of families in the nine categories in the table is extreme, ranging from -25 to +190 per cent. Although the last three groups with husbands without any income from employment show very large relative changes, their impact on the overall distributions is minor as they are a very small proportion of all families. Of the remaining six categories, the two groups which have shrunk over the decade consist of families where the husbands worked but the wives did not. These two groups accounted for 54 per cent of all families in 1970; in 1980, their proportion dropped to 35 per cent. Expressed differently, compared to 12 per cent in 1970, there were 18 per cent of all families

where both spouses worked full year full time in 1980. In another 28 per cent, compared to 22 per cent in 1970, one spouse worked FYFT and the other PYPT. On the whole, compared to 2 out of 5 families in 1970, there were 3 families out of every 5 in 1980 where both spouses worked. It is the increase in wife's participation in labour force which is the cause of this major change in the overall work patterns of family members.

The impact of wife's work on family income can be seen easily from the data in Table 2. Full year full time working wives contributed an average of \$14,200 to the family income in 1980 and those working part year or part time added an average of \$7,000. Thus, although the average income of husbands as well as of children in non-working-wife families was higher, the overall average family income of these families was lower by about 17 per cent than PYPT working wife families and by about 30 per cent than FYFT working wife families.

Furthermore, a comparison between 1970 and 1980 shows that, in each of the three categories, the relative contribution of wives has increased while those of husbands and children have decreased but the changes are quite small. For example, FYFT working wives

Table 1. Number and Average Income of Families, Husbands Under 65 Years, by Work Status of Husband and Wife, 1970 and 1980

Work Status ¹	Distribution		Average Family Income (1980 Dollars)		Change	
	1970	1980	1970	1980	Number ²	Income
	'000		\$		%	
Husband FYFT						
Wife FYFT	493	903	29,706	38,130	83.2	28.4
Wife PYPT	731	1,125	25,404	32,907	53.8	29.5
Wife not working	1,542	1,163	22,950	28,573	-24.5	24.5
Husband PYPT						
Wife FYFT	151	253	23,447	30,149	67.1	28.6
Wife PYPT	365	615	19,674	26,441	68.7	34.4
Wife not working	655	549	16,982	22,058	-16.1	29.9
Husband not working						
Wife FYFT	15	44	15,419	21,075	189.7	36.7
Wife PYPT	22	62	10,308	15,698	183.5	52.3
Wife not working	100	195	7,543	11,043	95.2	44.5
TOTAL	4,073	4,907	22,503	29,484	20.5	31.0

¹ FYFT: Worked 49-52 weeks, mostly full time

PYPT: Worked 49-52 weeks, mostly part time, or less than 49 weeks

² Calculated before rounding

Table 2. Distribution of Families by Wife's Work Status by Family Income Groups, 1970 and 1980

Family income group (1980 Dollars)	Wife's work status ¹							
	All families		FYFT		PYPT		Did not work	
	1970	1980	1970	1980	1970	1980	1970	1980
	Per cent							
Under \$5,000	4.8	3.3	.7	.7	2.5	2.0	7.0	6.1
\$ 5,000 - 9,999	9.2	5.3	2.4	1.2	7.1	4.4	12.2	8.7
10,000 - 14,999	15.3	8.6	6.5	3.5	13.6	8.4	18.7	12.1
15,000 - 19,999	20.5	12.5	13.7	6.8	21.5	12.5	22.0	15.9
20,000 - 24,999	18.0	15.5	11.6	11.6	21.3	16.1	15.5	17.2
25,000 - 29,999	12.3	14.5	21.3	15.1	14.2	15.8	8.8	12.9
30,000 - 34,999	7.6	12.2	14.7	16.1	8.1	13.0	5.3	9.0
35,000 - 39,999	4.3	8.8	8.2	13.6	4.4	9.0	3.2	5.6
40,000 - 44,999	2.5	6.1	4.6	10.1	2.5	6.1	2.0	3.7
45,000 and over	5.4	13.4	6.8	21.2	4.8	13.0	5.3	8.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	'000	4,073	4,907	659	1,199	1,117	1,801	2,296
Average Income	\$	22,503	29,484	27,944	35,828	23,242	30,112	20,582
Median Income	\$	20,055	26,713	26,315	33,430	21,155	27,133	17,696
Average Contribution of:								
Husbands	\$	17,831	21,268	15,848	19,946	17,136	21,431	18,738
Wives	\$	3,290	6,351	10,906	14,216	4,983	7,044	281
Children	\$	1,382	1,865	1,191	1,667	1,122	1,637	1,564

¹ FYFT: Worked 49-52 weeks, mostly full time

PYPT: Worked 49-52 weeks, mostly part time, or less than 49 weeks

contributed 39.0 per cent to their family income in 1970; their contribution in 1980 was 39.7 per cent. However, when the data are aggregated for all families, the average contribution of wives towards family income increased from about 15 cents in 1970 to about 22 cents in every dollar in 1980. This substantial increase is due to the overall increase in the proportion of working wives from 44 per cent in 1970 to 61 per cent in 1980.

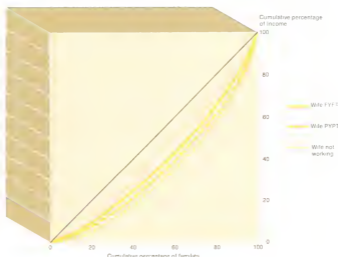
It may also be pointed out that the changes in the incomes of husbands and wives were commensurate with those observed in the incomes of males and females over the decade. Although family income increased by 31 per cent between 1970 and 1980, average income of working husbands increased by 21 per cent and that of working wives by 38 per cent.

As would be expected, the distributions of families by family income size differ substantially by wife's work status. In 1980, only about 1 in 20 families with full year

full time working wives had a family income of less than \$15,000. Over one-quarter of the families in which wives did not work had an income below this level. On the other end of the scale, 1 in every 5 families with FYFT working wives had a family income of \$45,000 or more. In the case of PYPT and non-working-wife families, the proportions of families with this level of income were only 1 in 8 and 1 in 11, respectively.

An important aspect of income analysis concerns the inequality of income distribution. Chart 2 presents three Lorenz curves for the income distributions of families with FYFT working wives, PYPT working wives and non-working wives. The horizontal axis in the chart represents the cumulative percentage of families arranged in order of size of income while the vertical axis represents the cumulative share of aggregate income of these families. If all families received an equal share of income, the Lorenz curve would coincide with

Figure 1
Cumulative Percentage Distribution of the Aggregate Income of Families by Wife's Work Status, 1980



the diagonal. The farther the curve is removed from the diagonal, the more unequal is the income distribution. The Chart clearly shows the impact of wife's contribution in this respect. Of the three curves, the one representing families with FYFT working wives is closest to the diagonal while that for families where wives did not work is the farthest.

A summary measure for income inequality is the GINI coefficient. Its value ranges between 0 and 1 depending on the degree of inequality. In terms of the Lorenz curve, if a curve coincided with the diagonal, the GINI coefficient for the distribution would be 0 and, if it fell entirely on the X axis, the coefficient would be 1. The values obtained for the three distributions plotted in Chart 2 were as follows:

Type of Family	GINI Coefficient
Wives working FYFT	2421
Wives working PYPT	3003
Wives not working	3564

These coefficients clearly indicate the substantial differences in equality of income distributions by wife's work status.⁶

Education Patterns and Family Income

The relationship between family's work effort and family income is positive and has been discussed above. The relationship between education and income is also positive. For example, the average income of families

where both husbands and wives were university graduates was about \$45,000 in 1980 compared to about \$24,000 for families where both spouses had less than secondary school education.

Chart 3 presents distributions of families by the education levels of husbands and wives. The contrast between families where one or both spouses had a university degree and those where both spouses had an education of less than secondary school is spectacular. Of the former families, about 34 per cent had a family income of \$45,000 or more, while there were only about 7 per cent with less than \$15,000. Most of these families with higher education and low income were actually very young families and their experience in the work force is likely to be a relatively short one. Of the families where both spouses had less than secondary school education, only 7 per cent had an income of \$45,000 or over but more than a quarter had an income of less than \$15,000 in 1980.

The educational profile of families has undergone major shifts between 1970 and 1980. In 1970, 64 per cent of all husbands and 62 per cent of all wives had less than secondary school education. A decade later, these proportions dropped to 40 and 44 per cent respectively. Only 28 per cent of husbands and 35 per cent of wives had a secondary school certificate in 1970; in 1980, nearly one-half of all spouses had this level of education.

Figure 3

Percentage of Families by Education Levels of Husband and Wife
and Family Income, 1980

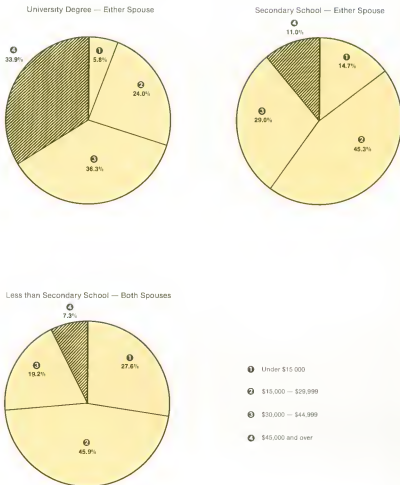


Table 3. Number and Average Income of Families, Husbands Under 65 Years, by Education of Husband and Wife, 1970 and 1980

	Distribution		Average Family Income (1980 Dollars)		Change ¹	
	1970	1980	1970	1980	Number	Income
	'000		\$		%	
Husband with degree						
Wife with degree	81	217	39,980	44,996	168.5	12.5
Wife with secondary school	201	337	37,668	42,775	68.2	13.6
Wife less than secondary school	51	51	34,196	39,865	0.5	16.6
Husband with secondary school						
Wife with degree	29	100	32,390	36,718	245.3	13.4
Wife with secondary school	657	1,493	25,624	30,076	127.2	17.4
Wife less than secondary school	462	755	22,926	27,470	63.6	19.8
Husband less than secondary school						
Wife with degree	11	20	28,953	37,649	88.3	30.0
Wife with secondary school	561	569	22,093	27,629	1.5	25.1
Wife less than secondary school	2,021	1,364	18,829	23,927	-32.5	27.1
TOTAL	4,073	4,907	22,503	29,484	20.5	31.0

¹ Calculated before rounding

The impact of these changes on the educational profile of families can be seen in Table 3, which shows the joint distribution of husbands and wives by their education. As pointed out earlier, the overall number of families increased by 20 per cent over the decade. However, the number of families where both spouses had less than secondary school education dropped by 33 per cent while the number of families with either the husband or the wife or both having an education of secondary school or above has increased significantly.

The implication of these changes on family income is most interesting. Average family income increased by 31 per cent between 1970 and 1980. However, the last column of Table 3 shows that the rate of increase in family income was lower in each of the nine categories of families. In fact, families where both spouses were university graduates experienced the lowest increase at 13 per cent, while those with both spouses with a secondary school certificate gained only 17 per cent. That the overall gain was 31 per cent is a direct result of the differences in the 1970 and 1980 distributions of families by education. Higher proportions of families with higher levels of education and, consequently, higher income in 1980 have pulled the overall average increase above the average increases experienced by the individual groups.

Work, Education and Family Income

The joint impact of work and education on family income can be seen in Chart 4. Average family income in 1980 ranged from a low of \$20,037 for families where both spouses had less than secondary school education and only one spouse may have worked to a high of \$52,786 for families where both spouses had a university degree and both worked full year full time in 1980. In the case of families where neither spouse had a university degree, family income was strongly influenced by work status of husbands and wives. On the whole, family income is likely to be well above average if at least one of the spouses has a university degree, both work with at least one of them working full year full time.

It has been demonstrated that family income is positively related to both the work status and the educational attainment of husbands and wives. Is there

a relationship between work status and education? Traditionally, husbands' rate of participation in work has always been very high with little variation over time. In 1970, 97 per cent of husbands under 65 years of age worked; in 1980, 94 per cent worked. The probability of their wives working increased from 44 per cent in 1970 to 61 per cent in 1980. Increasing participation of wives is, however, a post-war phenomenon. Unlike husbands, there is a strong positive correlation between wife's education and her labour force participation. As was pointed out above, family work patterns have changed significantly during the seventies because of the increase in work participation by wives. This increase has resulted from two factors. On the one hand, there is a general upward movement in the wives' rate of participation. On the other hand, there is an overall improvement in education which has led to further increments in their participation. This dual phenomenon is displayed in Chart 5. Within each of the three levels of education, work participation of wives has increased. However, the increasing level of education has shifted the 1980 curve to the right of 1970 curve. The shaded area of the increase is the effect of educational improvement.

Thus, the factors leading to changes in family incomes between 1970 and 1980 include, inter alia, changes in work and education profiles of families. Not only has the amount of work undertaken by the family increased, the quality of family labour (as measured by educational achievement) has also improved over the decade. To estimate the impact of these two factors, distributions and average incomes of families were obtained for 1970 and 1980 by the following characteristics:

Work Status

1. Both spouses worked 49-52 weeks, mostly full time.
2. One spouse worked 49-52 weeks, mostly full time, and the other worked either 49-52 weeks, mostly part time, or less than 49 weeks.
3. Both spouses worked either 49-52 weeks, mostly part time, or less than 49 weeks.
4. All other families.

Education Level

1. Both spouses with university degree
2. One spouse with university degree
3. Both spouses with secondary school certificate
4. One spouse with secondary school certificate
5. Both spouses less than secondary school certificate

The following information from these data was used to estimate the impact of work and education changes:

- P_i = Proportion of families in 1970
in each of the 4 work groups
- P_j = Proportion of families in 1970
in each of the 5 education groups
- P_{ij} = Proportion of families in 1970
in each of the 20
work-education groups
- Y_i = Average family income in 1980
in each of the 4 work groups
- Y_j = Average family income in 1980
in each of the 5 education groups
- Y_{ij} = Average family income in 1980
in each of the 20
work-education groups

If there had been no change in work patterns between 1970 and 1980, the average family income in 1980 would have been:

$$\sum (P_i) (Y_i) = \$28,058$$

If there had been no change in education patterns between 1970 and 1980, the average family income in 1980 would have been:

$$\sum (P_j) (Y_j) = \$27,471$$

If there had been no change in either work or education patterns between 1970 and 1980, the average family income in 1980 would have been:

$$\sum (P_{ij}) (Y_{ij}) = \$26,675$$

Actual average income of families increased from \$22,503 in 1970 to \$29,484 in 1980. The above calculations provide an estimate of \$1,426 as the impact of changes in work patterns, which is less than the impact of education changes, estimated at \$2,013. However, it should be pointed out that both negative and positive changes occurred in work patterns. As stated earlier, proportionately there were fewer husbands working full year full time in 1980 than was the case in 1970. When both variables, work and education, are controlled for change over the decade, their impact amounts to \$2,800. Average family income increased by \$7,000 between 1970 and 1980. About two-fifths of this increase may be ascribed to enhanced participation in the work force and higher levels of education of husbands and wives.

Conclusion

Significant changes took place in work patterns, especially those of wives, during the seventies. The proportions of working wives increased from 44 per cent in 1970 to 61 per cent in 1980. Compared to 2 out of 5 families in 1970, there were 3 families out of every 5 in 1980 where both spouses worked. Overall, wives

contributed 22 per cent to family income in 1980 compared to 15 per cent in 1970. Families where wives worked had significantly larger incomes than families in which wives did not work.

There were also significant improvements in the husband-wife education levels over the decade. Higher educational achievement boosted the general trend towards increasing labour force participation of wives. Families with greater education had significantly higher incomes than families with lower education.

Average family income increased by \$7,000 between 1970 and 1980. It is estimated that about two-fifths of this increase resulted from changes in work and education profiles of families over the decade.

Footnotes

¹ 1981 Census Content Series, *Changes in Incomes in Canada: 1970-1980*, Catalogue No. 99-941.

² This category includes those with trade, non-university and university certificates or diplomas below bachelor level.

³ For definitions of income and its sources and other variables, see *1981 Census Dictionary*, Catalogue No. 99-901. Data on the incomes of families from the 1981 Census are published in *Census Families in Private Households, Income*, Catalogue No. 92-936.

⁴ In this connection, it may be pointed out that husbands aged 60 to 64 years, whose wives were in receipt of Old Age Security pensions, may have been entitled to receive Spouses' Allowance in 1980. This might have contributed, to a small extent, towards the larger proportion of husbands without income from employment in this age group.

⁵ In this paper, the term 'family' refers to husband-wife census families with husbands under 65 years of age.

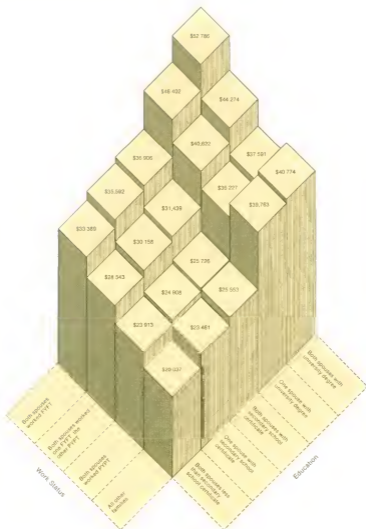
⁶ Although this analysis points to a growing group of families with low inequality of income, the results cannot be used to predict the movement of overall inequality. It is quite possible to have low GINI coefficients for various groups of families but a much higher coefficient when calculated for all families. The former depend on the variation within groups, while the latter is a function of the variation between groups. Furthermore, to estimate an overall inequality measure for all families, it would be necessary to take into account the relative weights and income distributions of elderly families as well as those headed by lone parent.

Obtaining Information from the 1981 Census

1981 Census data are available in a wide variety of publications. The *National Series* gives data for Canada, the provinces and territories. The *Provincial Series* provide county, municipal and metropolitan statistics. The *Profile Series* gives compact data for specific geographic areas, e.g., Federal Electoral Districts, Census Metropolitan Areas, Census Tracts, and others.

In addition to publications, both standard and special tabulations are offered on computer printouts.

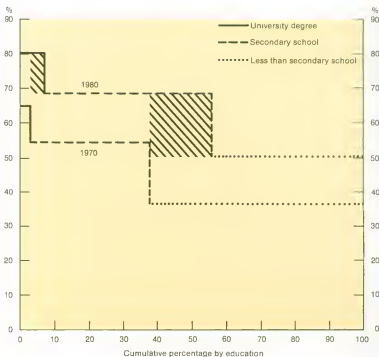
Average Income of Families by Work Status and Education of Husband and Wife, 1980



microfiche and microfilm and magnetic tapes. Maps and other geographic reference materials are available for many types of data. Direct access to information is also possible through CANSIM, Statistics Canada's machine-readable data base and retrieval system.

For a free copy of *Products and Services of the 1981 Census of Canada* or general information contact our closest regional reference centre

Figure 5
Percentage of Wives Who Worked by Education, 1970 and 1980



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